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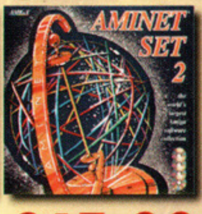
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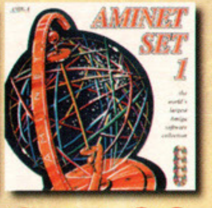
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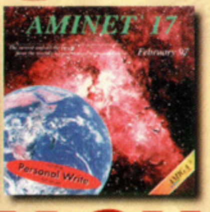
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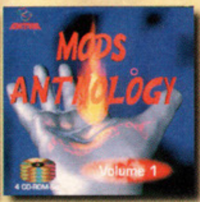


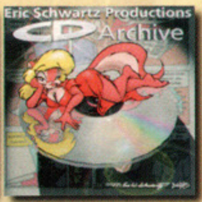


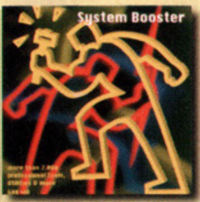


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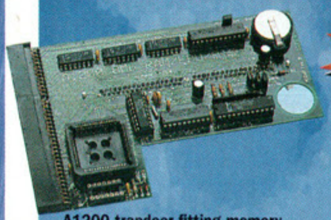


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Next working day. Orders must be placed before 2p.m. All orders will be placed on a 24hour delivery service. Siren Software are not responsible if deliveries take longer than 24hours. Only applies to items in stock. U.K. delivery only.

Month In View

It seems to be the month for programming. **Nick Veitch** explains why we brought digital photography to the Amiga.



Nick Veitch
Editor

Everyone, it seems, has gone bonkers over digital cameras. Magazines are full of them, (in fact, I noticed the other day that there is even a magazine dedicated to them) and large tracts of the average High Street are taken up by shops desperately selling them. But there was something wrong with this picture – none of the companies that produced them had bothered to include any Amiga support. Most of them come with CDs full of software and demo versions of commercial products, but not a single block is taken up with anything you could use on the Amiga.

Never fear though. As champions of the Amiga market, we have written the software for you. Kodak kindly lent us two cameras, and we set about making a software interface for them, which is available free on our CD. Regular updates will also be available on the Internet.

I'm sure, in time, that other cameras will be supported but at least for now you have no reason to be excluded from the digital revolution.

Those of you with a CD drive will also be jolly pleased to find the complete source to Matt Dillon's DICE C compiler on the CD. We've got a four page feature to get you started setting up the software and writing your first program. This comes in the same month that HiSoft announce the release of their own C compiler (see page 11 of news), and version 3 of the excellent *StormC* is also reviewed on page 66.

We also have the biggest software review you will ever have seen in *Amiga Format*. *Fusion* is the most comprehensive Mac emulator that we've come across, but it's not without its problems. Discover for yourself exactly what we mean on page 58.



SMILE PLEASE PAGE 14
Every Amiga owner will have an excuse for a grin, as we make it possible for you to use digital cameras with free software and instructions.



PREVIEWS PAGE 32
It's games galore this month, as **Andy Smith** checks out some of the titles you might find in your Christmas stocking.



DUNE II PAGE 38
It's Harkonnen versus Atreides in the prequel to *Command and Conquer*.



FUSION 2.0 PAGE 58
In possibly the longest and largest test of any software ever in *Amiga Format*, we give you the truth about the latest Mac emulator.



DYNAMODE 56K MODEM PAGE 70
OnLine PD bring out another complete comms solution.

AMIGA FORMAT Contents

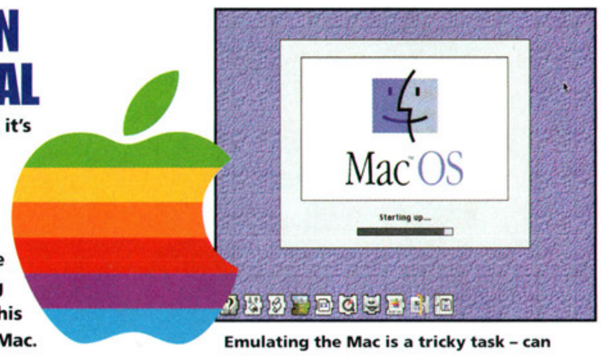
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AF NEWS

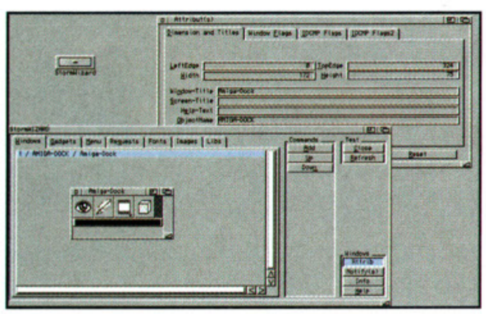


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Emulating the Mac is a tricky task – can *Fusion* cope?



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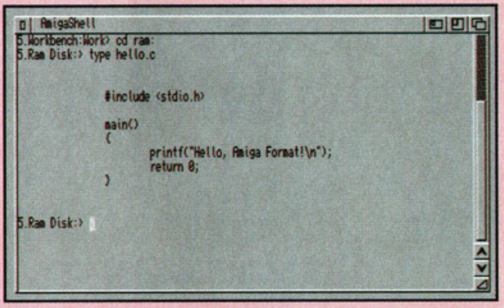
COVER STORY

CD-ROMS

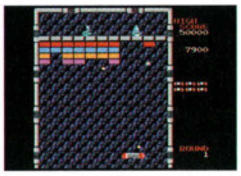


COVERDISKS











Defender II and *Arkanoid* – two very playable cartridges developed for Nintendo.



The silver ball hits the small screen again in previews.



The battle is on for control of *Dune*, and Sting is nowhere in sight!



Top down war simulation as you guide your men on to glory in *Cannon Fodder II*.

SCREENPLAY



Brutal racey flying blast-everything-that gets-in-your-way action in our *Skimmers* preview.

What's up?

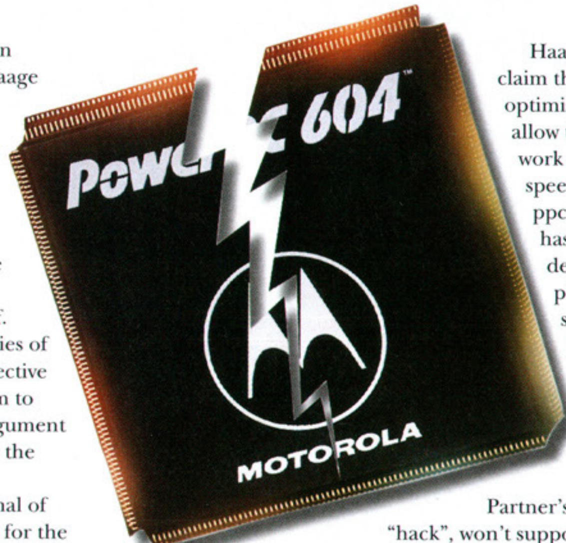
AMIGA FORMAT news

Developers go nuts over kernal

The partnership between software developers Haage & Partner and hardware giant phase 5 seems to be at an end. The two companies had been co-operating on the PowerUp project, seen by many as the Amiga's salvation and even the possible basis of future generations of the Amiga itself.

The break up follows a series of statements posted on the respective company's websites which seem to have escalated into a major argument over software development for the PowerPC accelerator.

The row concerns the kernal of code used by Haage & Partner for the Warp Up extension to their *StormC* compiler. This code forms the basis of how the PowerPC chip will perform its functions and communicate to the Amiga's native processor, and would effectively replace phase 5's PowerUp code provided with the board.



With the Amiga's official future processor still in question, is it wise to have these sorts of fights now?

Haage & Partner claim that their optimised kernal will allow the PowerPC to work at greater speed than the ppc.library which has been developed by phase 5. This statement has infuriated the designers of the PowerUp board, who claim that Haage & Partner's solution is a "hack", won't support many features of the PowerPC, may not support future revisions of the hardware and will be completely incompatible with PowerUp software developed using other systems.

This last point, if true, could be the most telling, as many companies could potentially want to use development systems based on other platforms to compile their Amiga code – including any work which may be done on integrating PowerPC compatibility into the next revision of Workbench.

However, Haage & Partner have pointed out that the Warp Up is an alternative to the PowerUp code, and that users of *StormC* have the option of which to use: "our package contains a solution which is compatible to that of phase 5, as well as an alternative that completely replaces the phase 5 software. The user is given full freedom of choice". They add that far from being incompatible, the Warp Up system will be more like the current Amiga OS, and has the capability to be easily adjusted to support any PowerPC based processor add-on, not just the phase 5 board. Also, they claim that because of the limitations imposed by the phase 5 library, it will be much harder for developers to port existing code to work on the phase 5 card.

At the moment, if phase 5 succeed in discouraging people from using *StormC*, there aren't very many readily available alternatives for the Amiga. As one developer told us "it's like them simultaneously shooting each other in the foot".

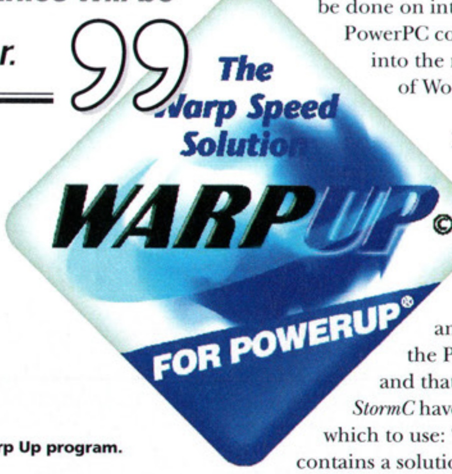
As no phase 5 accelerators are in circulation here just yet, the veracity of these claims and counterclaims is a little difficult to confirm. Whatever the actual case, the result is that both these companies will be saving themselves a Christmas card this year. In a final-sounding statement issued on the Internet, Wolf Dietrich of phase 5 said: "We highly disregard this counterproductive and confrontational behaviour, and will completely drop any support for Haage & Partner as a PowerUp developer as well as for any of their products". Sadly, if these two companies can't get along, the real losers in the short term will be small developers.

If you have an Internet connection, you can keep up with the very latest claims and counterclaims, by pointing it towards http://www.haage-partner.com and http://www.phase5.de.

The complete Warp Up extension for *StormC* is available for you to download, free of charge, on the Haage & Partner website.

> "Whatever the actual case... both these companies will be saving themselves a Christmas card this year."





phase 5's Wolf Dietrich vs. Haage & Partner's Warp Up program. Who's going to win? Possibly no-one.

Gateway rumours abound

There has been a flurry of unofficial announcements from within Gateway concerning new development on our platform. The organisation aren't being very forthcoming though, saying that they have been misquoted and misrepresented in the press, both online and in hard copy.

The first thing to note is that there hasn't been any mention of what processor will be used in a hypothetical new machine. They have *not* stated that the PowerPC will be the processor of choice for future Amigas. What has been said is that a new interim version of Workbench will hopefully be available in around six month's time, while a fuller upgrade (the Workbench 4.0 that netheads have been chatting about) will apparently be here in about a years' time.

Other news includes Gateway's agreement with Epson who have promised to give the Amiga billing on all their products. They will also be including printer and scanner drivers in the box and mentioning the Amiga in their new manuals.

Darreck Lisle, Events Co-ordinator for Amiga Inc., also commented on the fact that although ex-Commodore engineers like Ed Hepler, Dave Haynie and Carl Sassenrath had declined posts at the new Amiga company, they were all quite keen to help in whatever way they could with external development. More details will be revealed at the Cologne show in November.

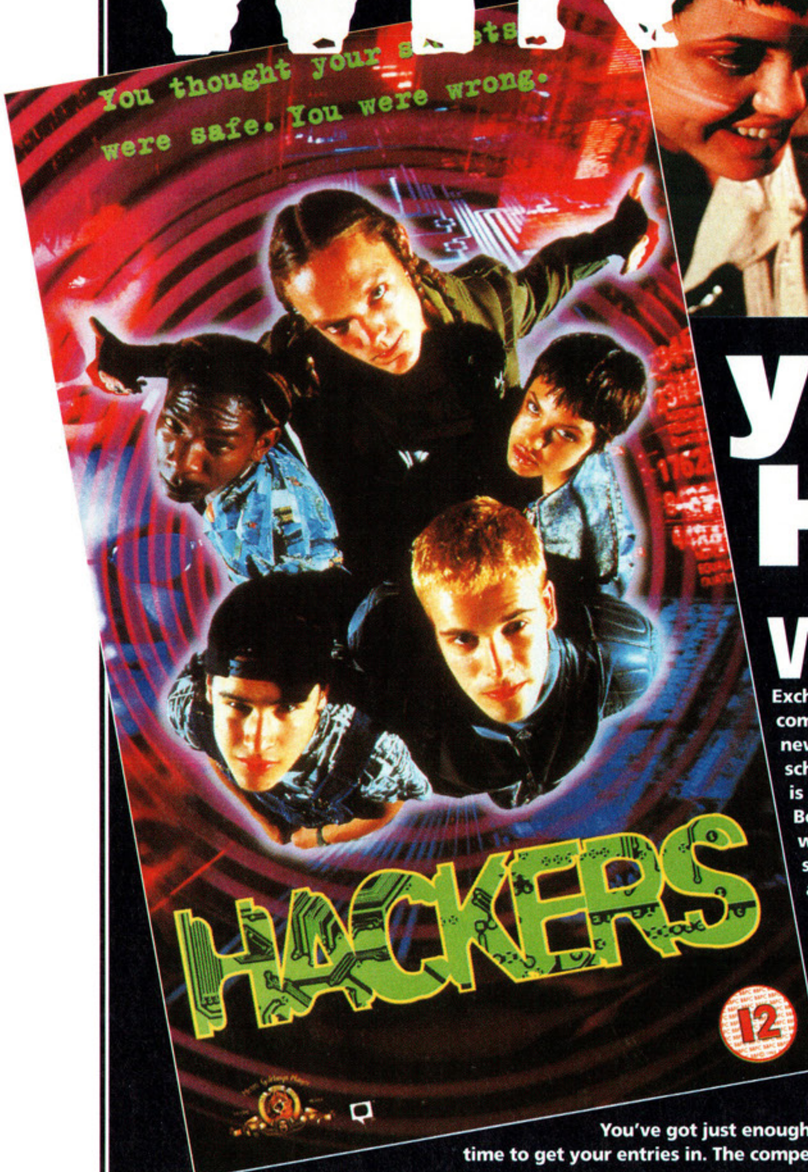
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We've got ten copies of *Hackers* and five copies of the film soundtrack for you to win. For those that haven't seen the film, *Hackers* begins with 11 year old Dade Murphy hacking into the New York Stock Exchange and planting a virus. He's arrested and banned from using computers for seven years. Cue the present day and Dade has moved to a new home and a new school where he soon falls in with a bunch of bitwise school kids intent on foiling a megalomaniac's plan. Our hero, Dade Murphy, is played by Jonny Lee Miller who also starred in *Trainspotting* as "Sick Boy", Angelina Jolie and Fisher Stevens also feature. Buying this tape would normally set you back a tenner but if you can answer this one simple question, you could be on the receiving end of a copy of the video and a soundtrack (for the first five winners only):

Who did the graphics for the video game Dade plays at the nightclub?

Was it:

a) Amiga Format

b) Psygnosis/Designer's Republic

c) Your granny

You've got just enough time to get your entries in. The competition closes on 31st January 1998

AMINET MORE AFFORDABLE

Thanks to the Pound Sterling's strength against the Deutschmark, Weird Science have really reduced the pricing on all the *Aminet* CD-ROMs and Sets. *Aminet* is not the only CD to benefit from reduced pricing either, so contact Weird Science on 0116 256 3800 or visit their website at http://www.weirdscience.co.uk for further details.

NATW GETS BIGGER

NATW (No Amiga To Waste) is a website dedicated to development for the Amiga. It's designed to prevent duplication of effort and give people ideas for their programming. It's also recently been updated with new sections devoted to finding development partners for projects and for reserving ideas. Users of the website can now choose to be informed daily or weekly about new ideas that get posted to the site through email and you can download several banners and buttons for your own websites to show support for NATW. Find their website at: http://thunderstorms.org/NATW/

MAGELLAN GETS UPGRADED

GPSoftware have been working hard on the latest version of *DOpus Magellan*, fixing the bugs and adding new features. But if you don't have your copy of 5.65, maybe it's because you haven't visited the GPSoftware site recently and downloaded your free upgrade. This patch is only going to be of use to those who have already upgraded to *DOpus* (5.6). Go to the GPSoftware site now at: http://www.gpsoft.com.au.

Become an ICPUGger for only a tenner

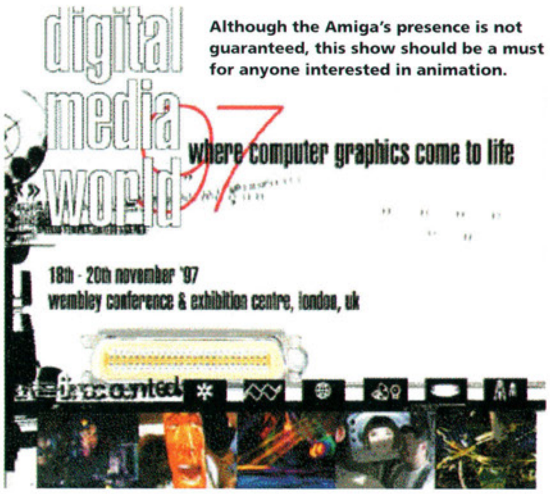
The Independent Computer Products Users Group (ICPUG) is offering cheap rates for new members. If you join up between September 1st and December 31st, 1997 trial membership will only cost £10 (including £1 share) for UK and BFPO members. The rate for Europe (including Eire) and overseas surface mail is £12, and the overseas airmail rate for this special offer is £15.50.

ICPUG, formed in July 1978, is now in its twentieth year and is a non- profit-making organisation. It is run for the members by the members and is truly independent, receiving no support from any part of the computer trade. ICPUG offers help and advice to the owners of Amigas, PCs, and some other home computers. It is almost the only source of advice for the Commodore 8-bit machines.

This membership offer includes two issues of the ICPUG Journal, a free PD software library for the Amiga, and all other Commodore computers, plus a free PD library (DOS and Windows) for the PC. There are also discounts and technical help hot-lines which are available exclusively to members.

The ICPUG Journal is a means of contacting other users of home computers both in the UK and overseas. The "For Sale and Wanted" column is often the only means of acquiring items which are now out of production. Details from the Membership Secretary, Tim Arnot, 17 Colne Drive, Oakfields, Didcot, Oxon, OX11 78RZ. You can also email him at: digits@cix.compulink.co.uk or visit the ICPUG website at http:// www.icpug.org.uk

Get into graphics



Although the Amiga's presence is not guaranteed, this show should be a must for anyone interested in animation.

If you're interested in the latest developments in CG – computer graphics – or you're looking for work in that area, then the Digital Media World /ComputerGraphics Expo show should be your first port of call this November. DMW/CGE is Europe's largest creative technology exhibition and is organised in conjunction with ACM SIGGRAPH, organisers of the world-famous SIGGRAPH show that takes place every year in America. In addition to the DMW/CGE, the London Effects and Animation Festival (LEAF) takes place at the same time and you can register for both in one go. LEAF also features an animation masterclass with Richard Williams, the animator's animator and the man behind Roger Rabbit amongst a huge list of credits. Needless to say, places for this course and LEAF itself are limited, so get in quick. For more information call 0181 240 5030 or visit their website at http://www.digmedia.co.uk.

Net Corner

WEB MAIL

If you're a Demon subscriber, you may well find their latest service very useful. Web mail allows you to view your email messages on the web. Okay, it's not very nice, it's not as fast as reading with YAM, but it does work and best of all, you can access it from anywhere!

All you have to is remember your POP3 password and you'll be able to read your email wherever you are in the world and even delete messages before you have to download them on your home account.

Now you don't need to have one of those fancy Nokia mobile phones to get your email on the move, just a web connection. It also means that if your machine at home isn't good enough for Internet connection, you don't want to pay phone bills, or you just want to test the water, you can try out Demon's email services on a Cybercafe's machine. There are two addresses for the mail service, one secure (you'll need the SSL library for *IBrowse* or *Miami* for this): https://web.mail.demon.net or a standard one: http://web.mail.demon.net/main.html Call Demon on 0181 371 1234 for more details.

SQUID'S AMIGA RUMOUR MILL

http://users.compassworks.com/~squid/amiga/amiga_articles.html

Squid, also known as John Shepard, is a perspicacious kind of character. His website is home to his opinions, and Amiga rumours going the rounds, but in an informed kind of a way. This is the web as it was meant to be – lots of content, light on the graphical posturing that seems to overtake most commercial websites and damned interesting to boot.

Although the major portion of his website is a kind of technological diary (which not only covers the Amiga, but any other peripheral news that might affect it), he also has several other sections devoted to his ideas on what a future Workbench should look like, famous Amiga personalities and more, although it has to be said that he hasn't updated them in a while (c'mon John!).

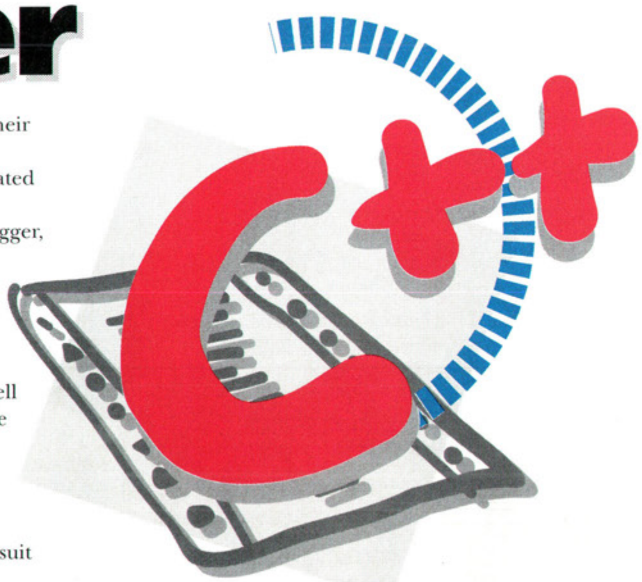
Even so, they still make great reading. Best of all, you don't even need to get online to see this site since John makes it available on our CD.



Squid's Rumour Mill has plenty of information and speculation.

New C++ compiler

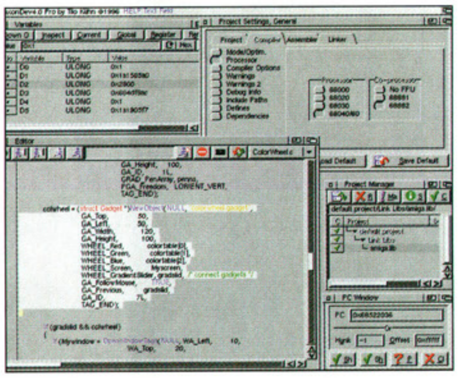
HiSoft SYSTEMS

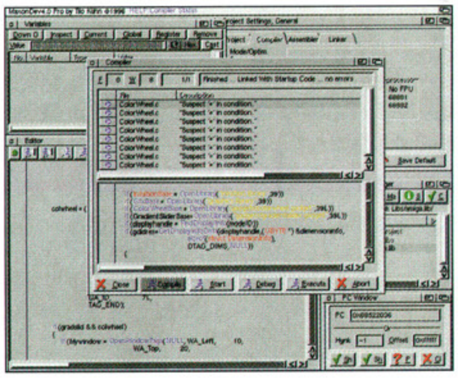


HiSoft are just putting the finishing touches to their new C/C++ compiler. It's a fully AT&T 3.0 compliant compiler that is a completely integrated development environment (IDE) built up from several components – the editor, the project manager, the debugger, the compiler the assembler and the linker. The user interface for *HiSoft C* is very modern with colour tagging for keywords, resizable and font sensitive windows and a full drag and drop implementation.

Its various components are all highly configurable with the debugger able to handle source level code as well as assembler level and the compiler able to compile code for different 68k processors. However, at this point, there is no information from HiSoft to say whether *HiSoft C* will be able to handle code generation for processors other than the 68000 series.

HiSoft C will be available in two different versions to suit different budgets and development needs. For more information on *HiSoft C*, or to find out what you need to qualify for student pricing, contact HiSoft on 01525 718181, or visit their website at http://www.hisoft.co.uk





Continued development for the Amiga has never had better prospects thanks to yet another C compiler.

Cloanto to launch Amiga Emulator

In a surprise move Amiga International, Inc. have granted a license to Cloanto Italia SRL to create an official software-only Amiga emulator for other platforms. This new emulator will come with a full version of the Amiga OS, Amiga/PC networking tools and various other bits of software and will be called *Amiga Forever*. It is due to be launched at the Cologne Show in November and will carry the "Powered by Amiga" logo that adorns all officially licensed Amiga products. As yet, news is scant on the overall content of the package, but we will give you details as and when we receive them. You might find more at their website at: http://www.cloanto.com



No details on their emulator as we go to press, but the website should have more info.

Oops! we goofed

In our review of *SoundProbe* in issue 103 we stated that it could be bought from HiSoft for the princely sum of £39.99. In actual fact, the situation's even better than that, you can buy it for just £24.95 direct from HiSoft on 01525 718181.

Last month (*AF103*) we said that Computer City had been appointed as the Amiga distributor in Benelux. That much is true, but we only gave you their fax number. Here are their correct details:

Tel: +31 10 451 7722
Fax: +31 10 451 7748
web: http://www.compcity.nl

MAKECD 2.5 RELEASED

Angela Schmidt has announced that *MakeCD 2.5* is now ready for release. *MakeCD* now supports more than 90 CD-R drives both old and new and works in English, Danish, German, Norwegian, Hungarian, Swedish, Finnish, Italian, Dutch and French. It also features a more user-friendly interface and has a limited demo. In the UK, you can buy *MakeCD* from HiSoft on 01525 718181 or visit the *MakeCD* website at http://makecd.core.de/ for more details and a downloadable demo.

CINEMA FOR FIDO

We've heard from Dave Buckler that he was so pleased with our *Cinema4D* giveaway last Christmas that he's decided to set up a FidoNet echo devoted to all things Cinema-related. The echo is aimed at beginners and experts and is intended for the exchange of tips and related chat. At the moment, the echo is in its infancy, available from three Amiga BBSs, but Dave hopes that it will be placed on the Fido backbone shortly and echoed nationally. Anyway, the three it is currently available on are as follows: Bobs' BBS Royston Herts: 01763 837129 Darkside BBS: 0181 7719100 Demon Fears Amiga: 0161 6273360 All three provide 24-hr service.

IT'S NOT APRIL

Believe it or not, Tamagotchi inventors Bandai have plans to launch a new series of the cyber pet. The first in the series is Elvisgotchi who only lives for a maximum of 41 years. You can feed him hamburgers and fried peanut butter sandwiches and he comes complete with a gold medallion.

Vulcan shrink to expand

Vulcan Software have announced that they will no longer be selling their titles direct. The company, who have published numerous Amiga games over recent years, intend to rely on the services of Weird Science in the UK and GTi in Europe to distribute their titles.

Vulcan hope that this will enable them to spend more time concentrating on bringing new and better games to the market. "We felt that in order to realise our current goals, we would have to re-evaluate our existing operations," said Lisa Tullah, director of Vulcan Software. "It is all very well producing the cream of Amiga entertainment software but it is equally important that the distribution network can do justice to the efforts of our talented army of Amiga developers which now includes 14 dedicated teams and over 100 graphic artists, musicians, programmers, 3D animators and translators."



Hard Target **is just one of the games that Vulcan can now concentrate on.**

> "Together we can ensure that all our releases are given the exposure they deserve and are accessible to users..."

"With Weird Science and GTi handling our distribution needs we can dedicate our time and resources to our development and publishing operations. We have already implemented the Vulcan Developer Network which provides all our teams with instant access to the expertise, libraries, graphic, music and hardware support of all our other developers as well as a dedicated news service which updates all developers regularly about significant internal and external events."

"All these advancements can only build on the excellent record we have achieved so far, our list of imminent releases is a testament to this." "Weird Science and GTi are professional, imaginative companies with a real commitment to the Amiga market. Together we can ensure that all our releases are given the exposure they deserve and are accessible to Amiga users everywhere."

If you have a game you want to publish commercially, or you are interested in hearing more about Vulcan, you can visit their website at http://www.vulcan.co.uk or contact them on 01705 670269.





You can play *Final Odyssey* and *Uropa 2* on our CD this month. They won't be on anyone else's for a while.

Canon = Happy Holiday

Canon have currently got a great offer running with their latest bubblejet printer. If you buy the newest Canon BJC-250 you'll get your money back as part of a promotion with Thomas Cook. That's right, you'll get the purchase price back as a voucher that you can use towards a Thomas Cook holiday.

The BJC-250 retails at £139 + VAT (you'll only get a voucher for £140, not £163.25 from Thomas Cook) and includes a high capacity black ink cartridge and a standard colour cartridge. The printer also supports the Canon Photo Cartridge and will print to a wide range of different media including high resolution paper, transparencies, fabric sheet, T-shirt transfer and banner paper.

Become a groupie!

Wigan and West Lancs User Group dropped us a line saying that they would welcome any new Amiga users to their club. The group meets every Sunday at 1pm in the School Hall at St. Thomas the Martyr, Highgate, Up Holland, near Wigan, Lancs. Admission costs just £2, and includes access to the Internet, flatbed scanning and colour printing. You can also have access to the entire 22GB+ S&S PD library. Refreshments are always provided and the group are a friendly bunch. For more information, why not telephone Simon on 01257 402201, Stephen on 01695 625063 or Ralph on 01695 623865. You can also visit their web page at:

http://www.warp.co.uk/~ssamiga/usergrp.html

Crack Amiga RC5 team moves up

Thomas Tavoly's effort to get the Amiga really well-known in cryptography circles is progressing well. You may remember that last month we detailed the effort to crack the 56-bit encryption scheme that the US government believes is sufficient for secure commercial Internet traffic. Well, the Amiga team, directed by Thomas has jumped from its position at number 149 in the list of teams competing in last month's news to tenth place.

The best thing about it is that anyone with an Internet connection, or even anyone who knows someone with an Internet connection, can take part. It really doesn't matter how fast or slow your machine is, every key cracked counts. Some of you might be scratching your heads and wondering about the legality of the effort (especially when you hear words like 'cracking' or 'breaking encryption'), but the whole thing is a completely legitimate competition. It has all been set up by RSA Laboratories – the company responsible for the encryption software used by many companies for secure data transmission. The competition consists of a block of text which has been encrypted and preceded with the 24-character phrase "The unknown message is: ". Using spare CPU cycles on computers around the world, the encrypted text is being subjected to decryption by brute force, trying every one of the 72 quadrillion (to be precise, 2^56 or 72,057,594,037,927,936) combinations until the text is resolved.

The Amiga client takes very little CPU time or memory and will happily run in the background while you get on with your normal work. You can find it and more details about the competition at the Amiga RC5 teams homepage at:
http://homepage.cistron.nl/~ttavoly/rc5/
Join now and help put the Amiga back in front.

New games company sets up

Ed Collins, whose online games petition many people signed, has set up a games company with Chris Page and George Hornmoen. Ed has been busy in recent months working with Chris on a game called *Explorer 2260*, based in an extensive universe that has been described by the pair in huge detail in a document called the "Collins Encyclopaedia Galactica" (CEG).

However, the addition of George Hornmoen to the team also means that they will be working on two games simultaneously – *Explorer 2260*, a giant space trading/adventure game and George's *Maim & Mangle* – a massive *Command & Conquer* beater. Both games are going to make use of the extensive work done on the CEG and will be based in the same universe.

The new company will be called World Foundry and they are taking the unusual step of developing for PowerPC first and 68000 processors afterwards. They even hope to be able to ditch 68k development completely, as soon as possible. As such, the level of detail they propose for their games is very high and will rely on the Amiga owner, not just having a PPC board but also, a CD-ROM drive, lots of added memory, possibly a graphics card and more. However, the games promise some excellent features some of which we'll run through here for you:

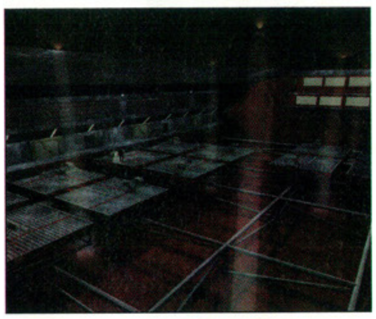
EXPLORER 2260

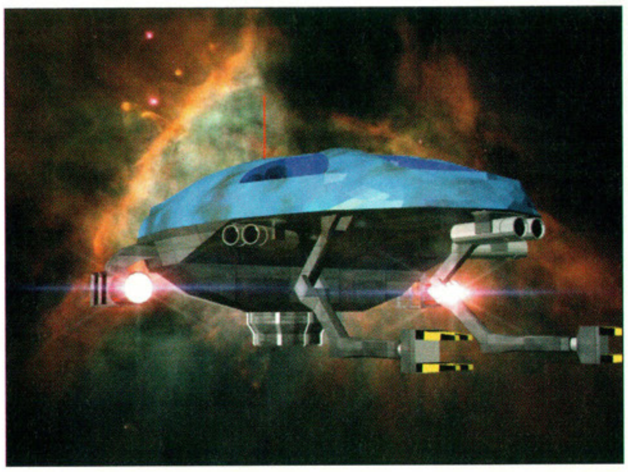
- **Dynamic Universe** where borders change, races will rise and fall.
- **StarNET** – an Internet for the Explorer universe.
- **Dangerous Hyperspace**– no Star Trek style "push a button and you're in another location".
- **Stations** which will expand and contract following the dictates of the Dynamic Universe.
- **Your ship** will be able to band together with others in a fleet to provide security.
- **High quality music** will play throughout the game without direct CD access thanks to custom routines developed by the team.
- **Fully texture-mapped** graphics with light sourced shaded 3D and effects like fog and lens flares, but only in full on the PowerPC.

MAIM & MANGLE

- **Multiplayer** games over the Internet or a network.
- **Save option** for multiplayer games.
- **True 3D landscape** so you can hide troops behind hills, etc.
- **Night time combat** – searchlights, tracers and night vision.
- **Weather effects** such as rain storms and fog.
- **Way point** navigation for complex troop manoeuvres
- **Light sourcing** for explosions and lights.
- **R&D** to add new units to your forces and even a plot to support the action!

You can find out more details on these games and World Foundry by visiting their website at:
http://www.worldfoundry.home.ml.org/

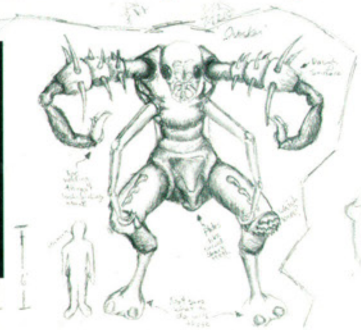












Stunning shots never before seen for *Explorer 2260*, along with some character sketches for one of the baddie alien races. *Maim & Mangle* will be set in the same universe.

Smile Please





Great news! Thanks to *Amiga Format* and John Kennedy you can now use a digital camera with your Amiga. Here's how it works…

Digital cameras have many advantages over ordinary cameras. To start with, they have no film, so they produce no negatives or even photographs. You don't need to take them to a chemist, or post them away to be developed. They can be used over and over again, without replacing anything but the battery. Once you take the picture, you can load it into a computer within seconds: much faster than even a speedy one hour service from the photographic shops that you'll find on the High Street.

They work by capturing and storing the images in their internal memory. Once captured, the images can be downloaded to a computer, where they can be dealt with as with any other graphic file. This means they can be loaded in paint programs, sent in electronic mail messages or even transmitted to a colour printer to produce a picture you can hold.

Although most digital cameras lack the detail and resolution which real film offers, the advantages of speed, and ease-of-use, makes them ideal for computer graphics fans. As the images appear directly on the computer, there is no scanning involved and the process is ideal for creating Web pages, grabbing textures for use in rendering programs or simply messing about drawing moustaches on the members of your family daft enough to stand in front of your camera and smile.

Continued overleaf ➡



The way it works



1. The DC25 camera comes with a powerful automatic flash. This switch allows you to turn it off, set it to automatic, or use the "fill-in" flash mode. **2.** The Kodak DC20 and DC25 cameras allow you to take standard or High resolution images, controlled by this switch. **3.** A self-timer is included so you can get in on the action. **4.** To erase all the pictures in memory, hold down this button. A more selective erase feature is available from the display menu. **5.** The all important shutter release. Click! **6.** The power on/off switch. The camera has an auto power-off feature. **7.** These LEDs will tell you when the camera is on, busy or full of pictures. **8.** & **9.** These buttons are used to control the display menu. Many extra features are available here. The uppermost button also toggles between full image mode, and four-at-a-time view. **10.** This is the rear colour LCD display, which displays pictures or menu options. **11.** Turns display on or off. **12** & **13** Buttons for flipping through images.

So what do digital cameras mean to the average Amiga user? They mean a brand new way of getting 24-bit images into the Amiga with no fuss, scanners or digitisers. Digital cameras and the Amiga were made for each other – at least with a little help.

KODAK DC20

The Kodak DC20 was one of the first affordable digital cameras, and when it was launched cost several hundred pounds. Now the price has dropped, making it one of the cheapest cameras available. It is by no means full of features, but still manages to pack a lot into its tiny case. On a negative note, it almost looks like a toy, with a tiny optical viewfinder and only three little buttons. There is no flash, no self-timer, no way to preview images and no way to alter the resolution used to capture

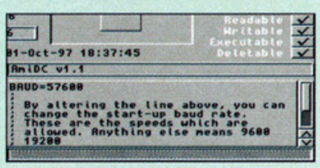
USING THE DC20 WITH THE AMIDC SOFTWARE

PLEASE NOTE: At the time of writing, the AmiDC software is undergoing constant development. Its appearance and features change from day to day. Currently the DC25 is untested with it, although it is anticipated that AmiDC will support the DC25 by the time you read this. Please visit the Web site at http://freespace.virgin.net/john.kennedy for the latest version of the software.



STEP 1

Before starting *AmiDC*, set the speed at which you want to connect to the camera. The default 9,600 is reliable, but deadly slow. Depending on your Amiga, you might be able to get rates up to 115,200 to work. The speed is set in the icon's tooltype, like this:



STEP 2

Before taking pictures, it's important to select the correct resolution. Use Erase if necessary, as it's only possible to set the resolution when the camera is empty. Try it when there are pictures held in memory and you see this error message:



STEP 3

Now run about taking pictures, until the camera's little red light tells you no more. This means the limit of eight images with High



The DC20 is smaller (and cheaper at £149 RRP) but still takes the same sized images as the DC25. Both cameras are available from Dixons and other High Street retailers.

images without resorting to the computer-based downloading utility.

On the other hand, it's cheap and very easy to use. Switch it on, point and click: your image is captured. The 1Mb of memory makes it possible to capture eight images at High resolution (493 by 373 pixels) and 16 at smaller "Standard" resolution. All images are captured in 24-bit colour, and there is no evidence of any compression of the type that you might see with JPEG algorithms: this is because images are stored unpacked in the camera's memory. In general use, the Standard resolution seems quite blocky, and my camera is permanently in High resolution mode. Images captured in this way are of good quality and capture colours well, especially when used outdoors in bright sunlight.

> "On the other hand it's cheap and very easy to use. Switch it on, point and click: your image is captured."

The DC20 takes a single 3v lithium battery, which is quite expensive but seems to last for quite a while. Although Kodak mention an additional flash gun and clip-on telephoto and wide-angle lenses, these don't seem to be available in the UK yet.

KODAK DC25

The Kodak DC25 takes the DC20 and improves almost every aspect. Although it captures images at the same resolution, its internal memory has been doubled and it's possible to choose the resolution of individual

Continued overleaf ➡

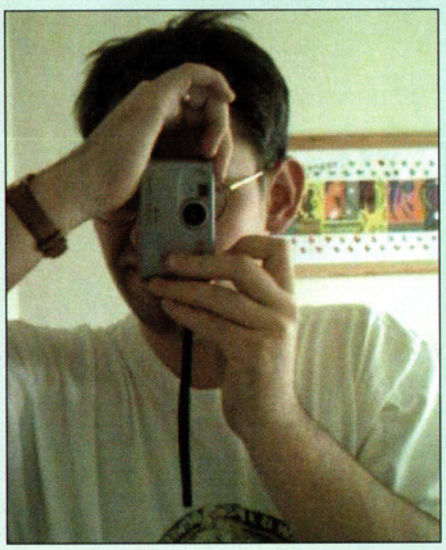
REMEMBER THIS

When you take a picture with a digital camera, you are effectively digitising the image which passes through the camera lens. The image falls onto a special portion of the camera which uses the same kind of light sensitive element as in video cameras – a CCD chip. The image is very quickly converted into a digital pattern, and stored in the camera's special "Flash" memory. This memory can store data even when no main power supply is available, which makes it ideal for storing photographs in a camera which may be left switched off for days or even weeks.

The only problem is that this kind of memory is quite expensive, and so there is limit to how many images can be stored. The camera manufacturers offer several ways of getting the most out of this available memory, including offering the choice of image size. The Kodak DC20 for example, can only store eight images in High resolution, but 16 images at Standard resolution.

Some cameras have built-in LCD screens for previewing the images held in memory, and this is useful because it means you can select which images are worthless and suitable for instant deletion. This frees up the camera's limited memory for another picture.

USING THE DC20 WITH THE AMIDC SOFTWARE



resolution, or 16 in Standard mode, has been reached. Bring the camera back to base, connect it to the serial port and run the *AmiDC* software again.

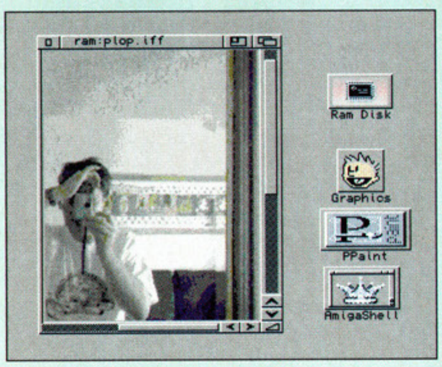
STEP 4

Using the Fetch button, the images can now be downloaded. However, this is only half the story – the images need to be converted from their native format into IFF form. *AmiDC* converts the pictures into IFF 24 files, which contain all 16 million colours and which can be viewed using standard graphics programs.



STEP 5

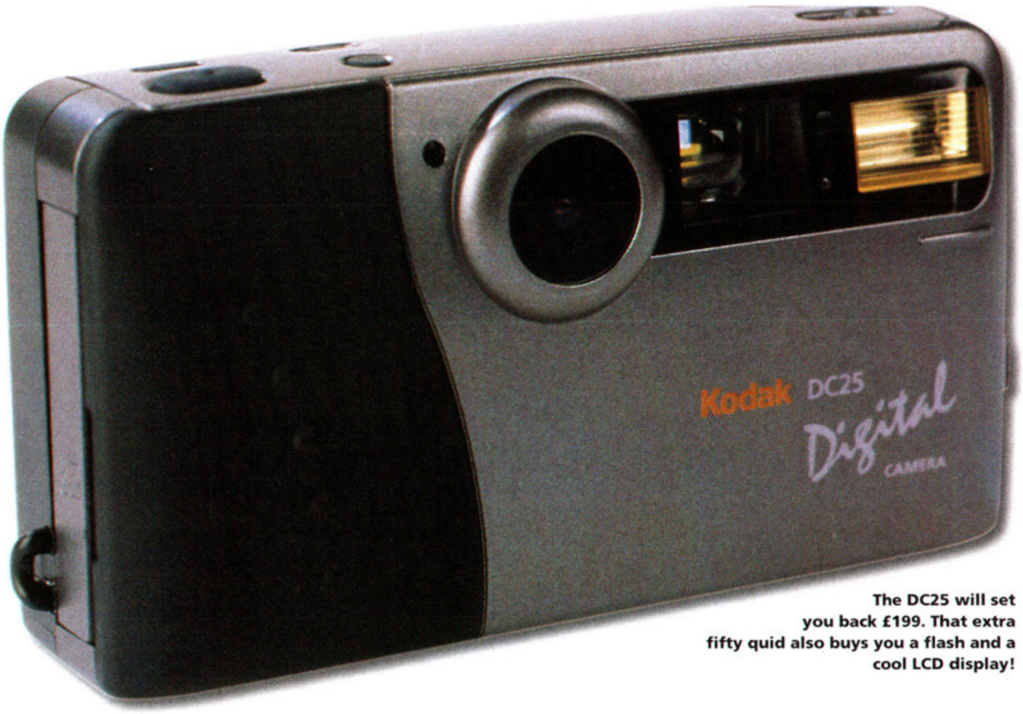
The files appear in the same directory as the *AmiDC* program, and are named "dc_001.iff" and so on. You can then load them into almost any standard Amiga graphics program for processing or editing. You can even email them, or send them to a colour printer.



images before you take them. Better still, there is an LCD panel at the rear of the camera which can act as a viewfinder, and also offers the chance to examine and delete captured images.

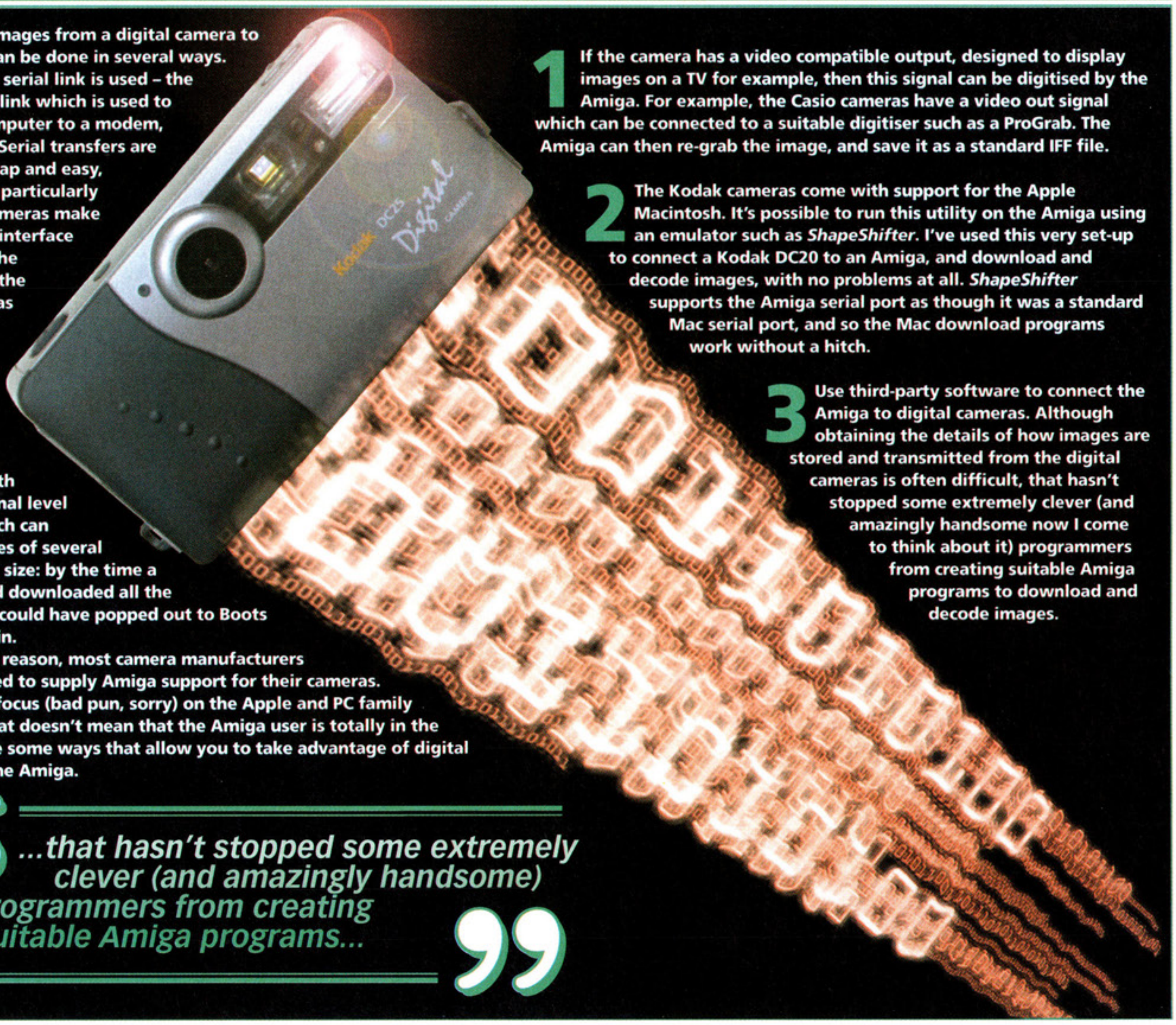
The DC25 is a clear refinement of the DC20. The optical viewfinder is larger and clearer, there is now a self-timer and a tripod mounting screw. There is also a socket for an external power supply, and a slot which takes PCMCIA memory cards to expand the internal memory even more. Best of all though, is the fact that the camera has a built-in flash which can be set to automatic or fill mode. This makes a huge difference to photographs taken indoors (and even some outdoor shots), brightening colours and making otherwise murky details clearer.

Perhaps the only thing wrong with the DC25 is the fact that it now uses a pair of the expensive 3v lithium batteries, and that the case is considerably larger and heavier. Given the choice, the DC25 represents a more useful and expandable camera. The resolution is still quite low in comparison to some other cameras (which offer 640 by 480), but certainly for Amiga users the 493 by 373 image size is quite adequate. For more info call Kodak on 0131 458 6714.



The DC25 will set you back £199. That extra fifty quid also buys you a flash and a cool LCD display!

DOWNLOADING IMAGES



Getting images from a digital camera to a computer can be done in several ways. Most often, a serial link is used – the same kind of link which is used to connect a computer to a modem, for example. Serial transfers are relatively cheap and easy, although not particularly fast. Some cameras make use of a SCSI interface to speed up the transfer, and the newer cameras use Infra-red ports to avoid the use of any cables at all.

SCSI especially, is important with the professional level cameras, which can capture images of several megabytes in size: by the time a serial link had downloaded all the pictures, you could have popped out to Boots and back again.

For some reason, most camera manufacturers have neglected to supply Amiga support for their cameras. Instead they focus (bad pun, sorry) on the Apple and PC family – although that doesn't mean that the Amiga user is totally in the dark. Here are some ways that allow you to take advantage of digital cameras on the Amiga.

1 **If the camera has a video compatible output, designed to display images on a TV for example, then this signal can be digitised by the Amiga. For example, the Casio cameras have a video out signal which can be connected to a suitable digitiser such as a ProGrab. The Amiga can then re-grab the image, and save it as a standard IFF file.**

2 **The Kodak cameras come with support for the Apple Macintosh. It's possible to run this utility on the Amiga using an emulator such as *ShapeShifter*. I've used this very set-up to connect a Kodak DC20 to an Amiga, and download and decode images, with no problems at all. *ShapeShifter* supports the Amiga serial port as though it was a standard Mac serial port, and so the Mac download programs work without a hitch.**

3 **Use third-party software to connect the Amiga to digital cameras. Although obtaining the details of how images are stored and transmitted from the digital cameras is often difficult, that hasn't stopped some extremely clever (and amazingly handsome now I come to think about it) programmers from creating suitable Amiga programs to download and decode images.**

> ***"...that hasn't stopped some extremely clever (and amazingly handsome) programmers from creating suitable Amiga programs..."***



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At last, the Amiga is BACK ON SALE with NEW machines from Amiga International Inc. All machines are full UK Specification and come bundled with WordWorth v4SE (Word Processor), TurboCalc v3.5 (Speadsheet), DataStore v1.1 (Database), PhotoGenics v1.2SE & Personal Paint v6.4, Organiser v1.1, Pinball Mania, Whizz and now ..... Directory Opus 4.12!

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'030/40 & FPU (68030EC Chip)	£99.99	£119.99	£139.99	£169.99	£219.99
'030/50	£119.99	£139.99	£159.99	£189.99	£239.99
'040/25 & FPU	£179.99	£199.99	£219.99	£249.99	£299.99
'040/40 & FPU	£229.99	£249.99	£269.99	£299.99	£349.99
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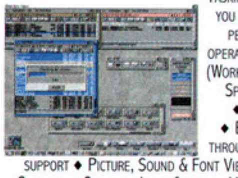
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DICE up your life

The popular Shareware C-compiler, DICE, is now Freeware. John Kennedy gets you started…

AFCD20:-Seriously_Amiga-/shareware/programming

ON THIS MONTH'S CD



DICE is a complete program development system for the Amiga, cultivated, over many years, by Matt Dillon. Since its creation, the package has evolved from a Shareware product to a commercial release, and is now freely distributable. It's an extremely powerful system, easily capable of producing professional, commercial quality software.

WHAT CAN YOU DO WITH IT?

DICE is suitable for all kinds of Amiga programming: from serious and powerful applications, to fast action games. DICE is based on the standard C language, with various extensions for the Amiga's unique features. This means you can use DICE to develop software knowing that at a later date it can be ported to another computer, with minimal effort. Having experience of C is very important if you want a job as a professional programmer.

WHAT IS C?

C is a programming language, developed in the 1970s. The definitive reference book is *The C Programming Language*, written by two of its key developers, Dennis Ritchie and Brian Kernighan. C has close links with the UNIX operating system – in fact, UNIX is mostly written in C – but as the Amiga also has links with UNIX, this is perfectly normal. As a tool for creating fast, powerful programs C grew in popularity and is one of the most widely used languages today. Thanks to an ANSI standard, a C program written on one computer will run with little changes on another.

C is unique in that it combines the best of languages such as BASIC and Pascal (namely ease-of-use and readability), with the best of low-level languages such as Assembler (speed and compactness). A C program will not run much slower than one written in machine code, and yet it will be much quicker to develop.

HOW C WORKS

The end result of using C is a program which will run on a computer. The program could do something simple such as printing a message, or something much more complicated, like raytracing a 3D scene. However, all C programs start out as Source Code. The Source Code is what you, the programmer, write. It contains instructions telling the computer what to do at every step, and

TOOLS

This DICE distribution comes packed with tools both in ready-to-run form, and as source code. The source code can be compiled with DICE. You'll find included with this DICE distribution:

COMPILER

This is the program which converts the Source Code to Object Code. It's the most important part of the C development system. The DICE compiler actually consists of several programs, including *DC1, DCPP, DAS* and *DCC*. However, it's usually very straightforward to use and not all its facilities are required to get started.

DEBUGGER

When writing a C program, it's often important to know what is happening when it is running. DICE includes a debugger which allows you to stop your program at certain points and examine memory to see what is really happening. It's an essential utility for complicated programs, and when learning how to program.

LINKER

The Linker looks after the process of combining Object files, Data and Library code. When the Linker has finished its job, you'll have a single file which is executable program. The Linker is a program called *DLINK*.

PROFILER

Speed is often very important to programs. A Profiler is a utility which examines a running program, and determines where most of the computer's time is spent. This allows the programmer to attempt to streamline that part of the program, and gain speed. *DPROF* is the DICE Profiler utility.

ASSEMBLER

Part of the compilation process involves converting the Source Code to Assembler code, and so an Assembler is required to create Object Code. This is normally hidden from you, but it's possible to use the Assembler separately if you wish. *DAS* is the name of the DICE Assembler.

SOURCE CODE MANAGEMENT

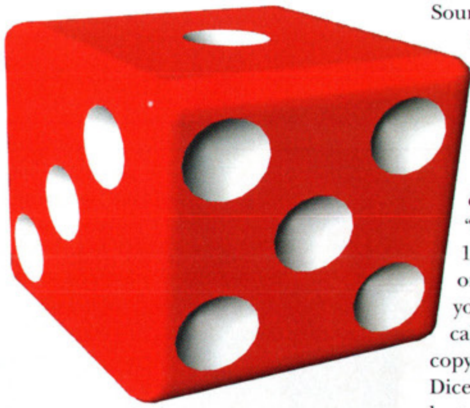
Larger projects quickly develop large numbers of files. The utilities *Co, Ci,* and *RCS* are designed to keep track of Source Code, requiring you to check files in and out, to prevent accidental changes. These features are the same as those used by professional programmers.

is supposed to be readable by both you and the computer.

The Source Code is converted into Object Code by the Compiler program. Object code is not readable by (ordinary) humans, but it is passed to a tool called the Linker. The Linker combines the code written by the programmer with a special library of common functions and creates the final, ready-to-run program. This entire process is, in the most part, automatic, and the finished program can be distributed completely independently of the Source Code.

The compilation process takes time, but it only needs to be done once to create a working program. Well, that's the theory. In practice, when the program is run, errors made by the programmer become obvious. In fact, sometimes the program won't compile, because the Compiler spots mistakes.

Eventually though, the program should be complete. C allows some time to be saved by allowing programs to be split into chunks. The chunks can be compiled separately, but only require this step when changes are made. This means that when the programmer makes one small change, only the immediate file needs to be re-compiled. The rest of the files can be Linked using their previously generated Object Code.



THE DICE SYSTEM

DICE comes with all the tools you need to create programs on the Amiga. At the moment there is still confusion as to the distribution of certain Amiga specific library files. The copyright to these files belongs to the owners of the Amiga, and they are required when writing programs which make use of specific Amiga functions such as opening Windows, using menus, graphical functions and so on. At the moment, the best place to obtain these files is on the special *Amiga Developer* CD-ROM.

But don't be put off – the absence of these files doesn't prevent DICE from being a powerful programming development tool. It's still possible to write CLI based programs and utilities, and to learn all there is to know about C programming.

> *A C program will not run much slower than one written in machine code... yet it will be much quicker to develop.*

DEVELOPMENT TOOLS

There is so much to DICE, we could spend all month looking at the programs which are included. Tools such as *DMAKE, VMake* and *VOpts* are designed to make creating your programs as easy as possible, as they remember which Source Code files are associated with which projects. They make it simple to compile your program, without worrying about which files were last updated. Other utilities, such as *Cat, Touch, Head* and *DSearch* provide useful facilities for programmers. Although any text editor will suffice for entering the Source Code, DICE comes with its own optimised editor, called *DME. DME* is supplied in Source Code format in this distribution.

INSTALLATION

Unfortunately, this version of DICE does not come with working Installation scripts. This is because the distribution is primarily designed for releasing the Source Code of the Compiler into the Public Domain, and not for creating a DICE programming environment. However, installing DICE enough to get it working isn't too hard.

You should start by creating a directory on your hard drive called "Dice". You will need to have about 10Mb free. The DICE_V3.15 drawer on the CD contains all the software you need. Apart from the drawers called "src" and "master", you should copy all of these directories into the Dice drawer on your hard drive. This is best done using a program like *Directory Opus*, as not many of the files have any associated icons. You'll be able to prune away other unneeded files once you have the system working.

All the important tools are in a ready-to-use format, but you do need to tell your Amiga where they are located. To inform the Amiga where the DICE tools reside, you will have to use the AmigaDOS command "Assign", as this creates a path to the new tools. I'm assuming here that you have created the DICE drawer on the top-level of a hard drive called "Work:". You'll have to change this to suit your own system. You should also create a directory inside the DICE drawer called "dtmp", as DICE will occasionally store information there.

Here are the list of Assigns which need to be entered. You can enter these directly in the Shell, but it's a better idea to edit your s:user-startup file, and add them to the end. This will mean that they will be automatically executed every time the Amiga starts up.

```
Assign DCC: work:dice
Assign DTMP: dcc:dtmp
Assign DINCLUDE: dcc:include
Assign DLIB: dcc:dlib
PATH ADD DCC:aBin
```

Before you can write any programs, you need to construct a special library file called "Amiga.lib". Without this file, the Compiler cannot function. This file is constructed from the supplied FD files. You can treat the following as a bit of a magic spell, but it is an essential step and if you don't do it, you won't be able

Continued overleaf ➡

to use DICE. You can either use the "fdtolib" utility supplied on the correct FD files to suit your system, or else you can enter:

```
rename dlib:amiga13sp.lib
dlib:amigas.lib
```

This will rename a library file supplied into the right format. You are now ready to start writing C programs!

THE FIRST PROGRAM

Writing a C program consists of entering Source Code into an editor. The Source Code contains the instructions which describe to the computer the steps you want it to follow, in order to successfully complete your program.

In order to enter the Source Code, you will need a text editor. There are many suitable editors available for the Amiga, including *ED* which you can invoke from the Shell. However, *ED* is quite limited and so you are strongly encouraged to use another editor. Any program will do, as long as it saves the text in a plain, ASCII format with no extra codes for formatting or fonts.

Our first program is very simple: all it will do is print a message on the screen. However, if you get this program running it proves that the DICE installation is working perfectly, and you are ready for larger things.

Here is the program. Copy it into your text editor, and when you have finished, save it to the RAM disk. You should give it a name which ends in ".c", as this informs the Compiler what the file contains and also helps you keep track of the many different files which a DICE project can contain.

```
#include <stdio.h>

main()
{
    printf("Hello, Amiga Format!\n");
    return 0;
}
```

Name this example file "hello.c". Your program should be saved to the RAM disk, and you can check that it is

```
AmigaShell
5.Workbench:Work> cd ram:
5.Ram Disk:> type hello.c

        #include <stdio.h>

        main()
        {
                printf("Hello, Amiga Format!\n")
                return 0;
        }

5.Ram Disk:>
```

there by entering:

You should see the program appear on the screen, with no extra characters. You are now ready to compile it.

```
Enter:

dcc hello.c
```

If you see an error message, such as:

```
AmigaShell
5.Workbench:Work> cd ram:
5.Ram Disk:> type hello.c

        #include <stdio.h>

        main()
        {
                printf("Hello, Amiga Format!\n");
                return 0;
        }

5.Ram Disk:> dcc hello.c
dcc: Unknown command
5.Ram Disk:>
```

Then the Assign statements you entered are either incorrect, or have not yet been activated. Remember, if you typed them into s:user-startup, then they won't be activated until the computer re-boots. Try again.

If all goes well, the DICE system should compile, assemble and link the program for you automatically. The DCC program will return, and nothing will have appeared to have happened.

```
AmigaShell
5.Ram Disk:> type hello.c

        #include <stdio.h>

        main()
        {
                printf("Hello, Amiga Format!\n");
                return 0;
        }

5.Ram Disk:> dcc hello.c
5.Ram Disk:>
```

> **"If you get this... running it proves the DICE installation is working perfectly and you are ready for larger things."**

You can now check to see what files are present. Enter:

```
dir ram:
```

And you should see that an extra file has appeared. The file will have no extension, because it is a ready-to-run application.

```
printf("Hello, Amiga Format!\n");
return 0;



        hello
```

You can run the program yourself, by simply entering its name at the Shell. So type "hello" to start it, and you should see the following:

```
6.Ram Disk:> hello
Hello, Amiga Format!
6.Ram Disk:>
```

Your first program is finished. Why not save it, and give copies to all your friends? Well, maybe not. Send it in to Andy Smith as a possible "Reader Game of the Month" instead.

SIMPLE C

Although C has only a few keywords (a lot less than BASIC for example!) it's not the easiest language to learn. You will really need to spend some time getting to know how it all works, but here are some simple programs to demonstrate a few useful tips and tricks.

FUNCTIONS AND PRINTF()

All C programs consist of at least one function. In our first program, we created a function called "main". All the code contained in the curly brackets following main() was associated with that function. Main() is a special case though, because all C programs start by looking for and then executing this function. A C program with no function called main() simply won't do anything.

Here's an example program which defines two extra functions. When you enter and run it, you'll see that the code in the first two functions is not actually executed until the functions themselves are called from within the main() function.

```
#include <stdio.h>

void hello()
{
        printf("Hello ,");
}

void af()
{
        printf("Amiga Format!\n");
}

main()
{
    hello();
    af();
    return 0;
}
```

When you run the program, you should see the familiar message, even though there are no printf() statements in the main() function itself. You can prove to yourself how the function calls work by changing the order and number in the main() function, like this:

```
main()
{
        hello();
        hello();
        hello();
        af();
        return 0;
}
```

The printf() function isn't part of C as such, but it is included in a library. That's what the first line in the program is for: it makes sure that your program has access to important facilities such as printing information on the screen.

Printf() is very powerful: it can display text, numbers and also has a few

special characters built into it. For example, the "\n" code is not printed as a slash and an "n". Instead, the C program takes a new line.

You can print numbers by using another of these special tags, namely "%d". You can then write a new printf() statement which displays numbers, like this. Notice you can embed one or more numbers in the same string of text – you just need to make sure you include enough numbers, separated by commas, after the text.

```
void hello()
{
        printf("I am %d years old, cos I was born in %d.\n",30,1967);
}
```

VARIABLES

Being able to print numbers is especially useful when the number is contained inside a variable. This is a special memory location which can be used to store values for the life of your program. A variable can be changed, or included in sums. Here's an example. Before you can use a variable, you must declare and give it a type. The type "int" is short for "integer", in other words, a number.

```
#include <stdio.h>

main()
{
     int age;
     int year;

     year=1967;

     age=1997-year;

     printf("Hey, old person: you are %d.\n",age);

     return 0;
}
```

This program creates two variables. It sets one to be 1967, and the other is calculated. The result is printed to the screen. We've saved ourselves a bit of mental effort, and used the computer to do a sum for us.

CONDITIONS

If a program couldn't make any decisions, it would be pretty dumb. Here is how you can perform a test on a variable and perform different actions depending on the result.

```
#include <stdio.h>

main()
{
     int age;
     int year;

     year=1967;  /* This is the year I was born */

     age=1997-year;

     if (age>25)
         printf("Hey, old person: you are %d.\n",age);
     else
         printf("Hey, you are still young.\n");

     return 0;
}
```

This time the program tests the value of the variable "age" and performs different actions depending on whether it is greater than 25 or not. There are other tests too, such as "<" for less than, "==" for equals to and "!=" for not equals to. Make a careful mental note of that double equals sign, as it is the number one mistake which C programmers make.

If you want to include more than one line in the If/Else statements, put curly brackets around them, like this:

```
#include <stdio.h>

main()
{
     int age;
     int year;

     year=1967;  /* This is the year I was born */

     age=1997-year;

     if (age>25)
         {
             printf("Hey, old person: you are %d.\n",age);
             printf("But your not as old as your mother.\n");
         }
     else
         {
             printf("Hey, you are still young.\n");
             printf("Enjoy if while you can.\n");
         }

     return 0;
}
```

HELP!

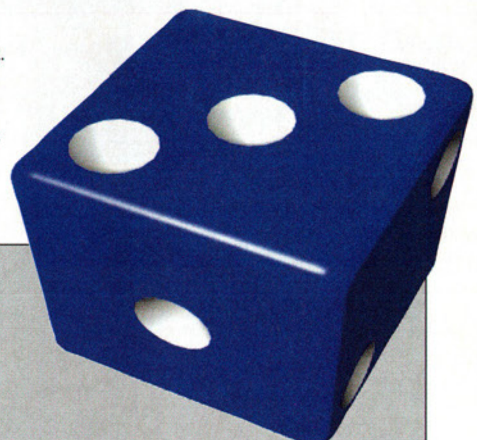
The DICE C distribution comes with a mountain of text files. These text files explain almost everything there is to do with DICE in extreme detail. The documents are plain text files, situated in the DOC directory. It is essential that you take the time to read through these files to gain an understanding of the finer aspects of DICE's operation.

If possible, you should print out some of the files to produce a manual you can refer to. In fact, a better idea is to copy the files to disk, and bring them into work or school and print them out there.

You might have noticed some extra text between the symbols "/*" and "*/". This is a comment. The Compiler ignores it – it is there only as a reminder for you. It is a good idea to get into the habit of adding lots of comments to your programs, to remind you of exactly what it is doing.

INPUT

Need input... yes, you surely do otherwise your program will have the same result every single time you run it. We can use a function which is closely related to printf() to get input from the keyboard. Here is a program which asks you for a number, and then adds ten to it. Think of it as being like a very simple calculator.



```
#include <stdio.h>

main()
{
     int number;

     printf("Please enter a number:");

     scanf("%d",&number);

     number=number+10;

     printf("The number, plus ten, is:%d.\n",number);

     return 0;
}
```

Notice the extra "&" character before the variable in the scanf() statement. It's vital you include this, although the reasons for it are horribly technical. Basically scanf() needs to know exactly where in memory to place the value, and the "&" will return the address of the variable, rather than the value of it. Be sure to join us next month for the start of our new C tutorial.

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Power Boards will be delivered with a comprehensive suite of utilities, including the PPC library, as well as tools for creative users. Among them is a Public Domain GNU C compiler for PowerPC (including sourcecode), many demo programs and utilities with sourcecode. In addition to this software, free developer support is available via FTP site.

Last but not least, a PowerPC optimised version of CyberGraphX V3 with RISC optimised CyberGL/3D plus MPEG functions and libraries is included (along with a special GGX driver to support the AGA chipset) with full and comprehensive documentation.

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Est. PPC Performance MIPS SpecFP95	@ 175MHz Approx. 250* Approx. 3.1	@ 200MHz Approx. 280* Approx. 3.5	@ 200MHz Approx. 350* Approx. 7.1	@ 200MHz Approx. 350* Approx. 7.1
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CyberStorm PPC Board - A3000/4000(+T)

CyberStorm PPC is the ultimate accelerator for Amiga 3000[T], 4000[T] and systems with compatible CPU slots, offer blistering 604e performance - more than 10 times faster than any 68k based accelerator on sale today! Available with clock speeds of 150, 180 and 200MHz, the companion socket for the 68k processor accepts either a 68040 or 68060 CPU. The board provides 64-bit wide extremely fast memory expansion using pairs of standard SIMMs, dynamically shared by the two CPUs. Additionally, CyberStorm PPC comes with a DMA driven Wide ULTRA SCSI controller on board offering transfer rates of up to 40Mb/sec for even the most demanding of professional applications. A 32Bit high speed expansion connector, with DMA access to the main memory, is also provided for later upgradeability.

The 200MHz version of the CyberStorm PPC provides performance of more than 350 MIPS or approximately 8.1 SPECint95 and 7.1 SPECfp95*... breathtaking speed that goes far beyond that offered by most PC systems. In the second half of the year, an advanced graphics board will become available for the CyberStorm PPC expansion slot, providing a subset of the innovative CAIPIRINHA custom chip. By having a stand alone version of the DLRP (Display List Risc Processor), this board wiil offer superior display capabilities through higher VRAM-based resolutions, pixel depths and speeds, as well as the potential to begin developing software supporting the functionality of the forthcoming A\BOX system.

PRICING AND AVAILABILITY:
Options with or without 68k CPUs will allow users to fit the CPU from their existing accelerator. Delivery of Power Boards is scheduled for Summer 1997 following finalisation of CE approvals. Call now for full details.

Special prices available to existing BLIZZARD & CYBERSTORM board users

Blizzard 603e/603e+ Board...	175MHz	200MHz
with Empty 030 Socket	£289.95	
with Empty 040/060 Socket		£379.95
with 68030/50MHz fitted	£329.95	
with 68040/25MHz fitted		£429.95
with 68040/40MHz fitted		£459.95
with 68060/50MHz fitted		£614.95

POWER PC TECHNOLOGY, POWER PC SPEED and POWER PC PERFORMANCE

Cyberstorm PPC 604e Board...	150MHz	180MHz	200MHz
with No Processor	£479.95	£549.95	£629.95
with 68040/25MHz fitted	£519.95	£579.95	£669.95
with 68040/40MHz fitted	£549.95	£609.95	£699.95
with 68060/50MHz fitted	£709.95	£769.95	£859.95

**Quoted performance figures are estimations based on specifications from Motorola/IBM and are relevant to the PowerPC processor only.*
Prices Include VAT @ 17.5%.
Owners of other makes of board or those who don't already have an appropriate CPU - please call for prices.

Harwoods... always the Fastest Amiga Boards and NOW PowerPC Technology for Amigas too!

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64-Bit ENGINE A2000/3000/4000 (T Series) 3D VERSION 24-Bit COLOUR ACCELERATED GRAPHICS CARD.

For all Zorro-3 and Tower System A1200s with Zorro II backplanes.

LOWER PRICES!

The core of this great board is the VIRGE GRAPHICS CHIP from S3. With 3D capabilities, it's able to process complex 3D functions in hardware (eg. shaded & textured surfaces) with Trilinear Filtering and Shading/Fogging for super realistic Real Time 3D Rendering. When used with CyberGraphX 3D library, Cybervision 64/3D can even offer a broad range of 3D facilities for any software developer.

CyberVISION 64/3D... 4Mb Version — £139.95

MPEG Decoder - added to the Feature Connector to provide real time MPEG audio and video decoding at full size custom screens or, in Workbench windows (HQ display using 16/24Bit modes from CyberGraphX Workbench). Stereo audio output is provided via the supplied dedicated line output jack. Upgrade to a Cybervision 64/3D and MPEG bundle (from previous Cybervision 64) for a special low price! — £149.95

Monitor Switcher - with integrated scan line doubler. Designed to fit into the Amiga slot, this gives full automatic switchover from the standard Amiga signal to Cybervision 64/3D's output. Both cards may be fitted inside A3000/4000 models leaving three Zorro-III slots free. — £69.95

CYBERSTORM II

CAN BE EXPANDED TO A FULL 68060

AMIGA 68040ERC AND 68060 ACCELERATORS

You can choose between the 68040/40ERC Cyberstorm II or the ultra powerful 68060 version. When you fit a Cyberstorm II 68060 Accelerator to YOUR A3000, A3000T, A4000 or A4000T you can for example, render a graphic with Imagine 2.0 software in just 2.4 minutes! Compare that with 10.34 minutes on a standard A4000 '040/25! With no jumpers, both Cyberstorm II models are fully plug and play and, A4000 users even have the option of a SCSI-2 Module if they wish (A3000s already have SCSI built in).

- Up to 128Mb of standard SIMMs can be installed and you can even transfer the 72Pin SIMMs from your Amiga A4000 straight onto your new Cyberstorm.
- Optional SCSI-2 Module
- If your budget currently only covers the cost of Cyberstorm II 68040ERC, you can always upgrade later to the full 68060 processor for the extra power!

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Cyberstorm II 68040/40 40MHz 68040ERC - 0Mb, Expandable to 128Mb — £239.95
Cyberstorm II 68060/50 50MHz 68060 - 0Mb, Expandable to 128Mb — £389.95
Cyberstorm II SCSI-2 Module — £69.95
Cyberstorm II SIMM RAM Expansions (Please call for a range of SIMM prices) — £Call

1240T/ERC TURBO ACCELERATOR MEMORY BOARD

A1200T* TURBO ACCELERATOR and MMU/FPU for *TOWER SYSTEMS
40MHz 68040 - 0Mb Standard, expandable to 128/256Mb
30MIPS with 60 Nanosecond SIMM fitted.

CAN BE EXPANDED TO A FULL 68060

A super LOW COST A1200 Turbo Accelerator Board, ideal for housing on any *Tower System A1200 main board (mechanical dimensions, high power consumption and heat emission require an active cooling cap, we therefore do NOT recommend fitting to standard A1200s without the appropriate modifications etc.). The "ERC" Processors used on these boards are recycled and vigorously tested 68040 CPUs operating at 40MHz with MMU/FPU - an excellent guaranteed and competitively priced alternative. Available options such as the SCSI-IV Kit and RAM are shared with the Blizzard 1230-IV and 1260.

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Blizzard 1240T/ERC Turbo 40MHz 68040 and MMU/FPU, 0Mb 32Bit Fast RAM, exp. to 128/256Mb — £199.95

2040ERC TURBO ACCELERATOR MEMORY BOARD

A1500/2000 TURBO ACCELERATOR and MMU/FPU
40MHz 68040 - 0Mb Standard, expandable to 128Mb
30MIPS with 60 Nanosecond SIMM fitted.

The Blizzard 2040ERC is a super LOW COST board which offers A1500/2000 owners the opportunity to upgrade to the same performance as the Blizzard 1240T/ERC Board. Users will then be able to enjoy full A4000/040 power as well as take advantage of the built in SCSI-2 interface. The "ERC" Processors used on these boards are recycled and vigorously tested 68040 CPUs operating at 40MHz with MMU/FPU - excellent guaranteed competitively priced alternative.

Blizzard 2040ERC Turbo
40MHz 68040 and MMU/FPU, 0Mb 32Bit Fast RAM, exp. to 128Mb — £249.95

LOWER PRICE! CAN BE EXPANDED TO A FULL 68060

1260 TURBO ACCELERATOR MEMORY BOARD

EASY TRAPDOOR INSTALLATION... No modification necessary. Reliable low heat output.

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50MHz 68060 - 0Mb Standard, expandable to 64/192Mb
38.71MIPS with single sided 60/70 Nanosecond SIMM fitted.

Offers Amiga A1200 owners FULL 68060 POWER with a board that simply plugs into the trapdoor slot. Your A1200 will then operate at TWICE or even THREE TIMES THE SPEED of an '040 based upgrade and up to FIVE TIMES THE SPEED of a standard A4000! Available options such as the SCSI-IV Kit and RAM are shared with the Blizzard 1230-IV and 1260.

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2060 TURBO ACCELERATOR MEMORY BOARD

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50MHz 68060 - 0Mb Standard, expandable to 128Mb
38.71MIPS with 60/70 Nanosecond SIMM fitted.

Offers Amiga A1500/2000 owners the same specification as the remarkable Blizzard 1260 Turbo (A1500/2000s will operate at up to FIVE TIMES THE SPEED of a standard A4000) with FULL 68060 POWER and also includes built in SCSI-2 interface!

Blizzard 2060 Turbo
50MHz 68060 and MMU/FPU with SCSI-2, 0Mb 32Bit Fast RAM, exp to 128Mb — £429.95

LOWER PRICE!

1230-IV TURBO ACCELERATOR MEMORY BOARD

EASY TRAPDOOR INSTALLATION... No modification necessary. Reliable low heat output.

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50MHz 68030 - 0Mb Standard, expandable to 128/256Mb
9.91MIPS with 60 Nanosecond SIMM fitted.

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Fast 60 Nanosecond SIMM RAM Expansions - 32Bit, 72Pin — £Call
Motorola Maths Co-Processor - 68882 PGA type FPU, 50MHz — £39.95

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MOTOROLA MOTIVATED

Blizzard and Cyberstorm products use MOTOROLA 680X0 and PowerPC series processors. They run **WITHIN** the electrical timing specification laid down by Motorola to prevent any possible overheating/reliability problems. So, when you pay for a 50MHz CPU for example, that's exactly what you get... not a 40, 33 or even a 25MHz CPU "clocked" to 50MHz! Look out for the **MOTOROLA MOTIVATED** logo - your guarantee of our commitment to quality and reliability - **BEWARE** of "clocked" CPUs! T/ERC and ERC processors used on selected boards are recycled and vigorously tested 68040 CPUs operating at 40MHz - an excellent guaranteed and competitively priced alternative.

BLIZZARD SCSI-IV KIT

SCSI-2 MODULE for 1230-IV, 1240T/ERC & 1260, & ADDITIONAL 128Mb SIMM SOCKET
(Fast SCSI-2 DMA Controller - upto 10Mb/s transfer rates with additional SIMM socket/extra RAM)

Blizzard SCSI-IV Kit — £59.95

1230-IV, 1240T/ERC and 1260 FEATURES

- May be disabled with simple keystroke on boot up - for full games compatibility, even badly programmed/older software
- Battery backed self re-charge Real Time Clock
- High performance expansion with full 32Bit wide DMA
- Easy trapdoor installation - no modifications required (1240T/ERC fits in Tower)
- 1230-IV features PGA FPU socket allowing optional 50MHz 68882 FPU

What the Magazines think...

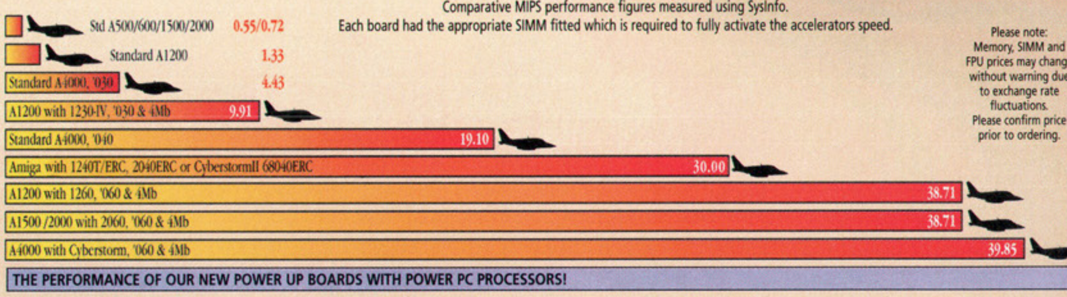
Blizzard products have consistently achieved the highest magazine accolades and awards!

Amiga Shopper *"...1260 is destined to become the ultimate object of desire for A1200 owners."* - **91% STAR BUY Award**
Amiga Computing *"...If you want the fastest Amiga in the World, get this board."* - **92% BLUE CHIP Rating**
Amiga Format *"...Ride on the fastest A1200 in the World..."* - **95% GOLD Rating**

OUR RANGE HAS WON MORE AWARDS THAN ANY OTHER

JUST COMPARE THE PERFORMANCE FIGURES FOR YOURSELF!

Comparative MIPS performance figures measured using SysInfo.
Each board had the appropriate SIMM fitted which is required to fully activate the accelerators speed.



Please note: Memory, SIMM and FPU prices may change without warning due to exchange rate fluctuations. Please confirm price prior to ordering.

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Take a signal from TV with SCART output

Use either Satellite signals or VCR output of TV or Video, including S-VHS

The revolutionary S-VHS **ProGrab™ 24RT Plus** with Teletext is not only the best way to get crisp colour video images into your Amiga, from either live broadcasts or taped recordings, it also costs less than any of its rivals. This real time PAL/SECAM/NTSC* 24-Bit colour frame grabber/digitiser has slashed the price of image grabbing on the Amiga and, at the same time, has received rave reviews for its ease of use and excellent quality results. ProGrab™ has earned honours from just about every Amiga magazine and Video magazines too! And... with ProGrab™ you needn't be an expert in Amiga Video Technology, a simple 3 stage operation ensures the right results... **Real Time, after time.**

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Select any video source with S-VHS or composite output. This could be your camcorder, TV with SCART output, satellite receiver, domestic VCR/player or standard TV signal passing through your VCR/player... the choice is yours.

STAGE 2

With ProGrab's software, select an image you wish to capture using the on screen preview window and Grab (because the hardware grabs frames in real time, there's no need for a freeze frame facility on the source device). Once grabbed, simply download and view the full image on your Amiga screen. ProGrab also includes a Teletext viewing and capturing facility from either TV or satellite sources.

STAGE 3

Use the 'grabbed' image with your favourite word processor, DTP or graphics package. ProGrab really does make it that simple!



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ProGrab™ 24RT Plus...

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- Saves and Loads images in IFF/ILBM, IFF/ILBM24, JPEG, BMP, PCX, and TARGA file formats. ProGrab saves animations as Anim5 files and animations with sound (requires PCMCIA interface and separate sound sampler) as Anim5 + 8SVX files. A range of image processing effects, palette computing routines (AGA only) and dithering methods are featured in ProGrab Version 2.6.x. Photogenics fully supports ProGrab with a custom 'Loader' to enable grabs directly from within the program - this direct input method will save YOU more time when handling large images.
- Software has built in mono and colour animation facilities. Number of frames is dependant on Amiga RAM.
- Release 2.6.x software now includes...
  Additional Teletext Facilities - with either terrestrial or satellite TV signals.
  Larger Preview Window - double resolution and four times area of previous ProGrab software.
  International Support - now compatible with composite PAL, SECAM and NTSC - straight from the box.
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ProGrab™ 24RT Plus costs just £99.95 LOWER PRICE!
and is supplied with just about everything you'll need♦...

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- Parallel Port Connecting Cable
- User Manual
- Input sockets for Composite and S-VHS.

♦ A video source cable will be required to match your own equipment - ask us for details.
**Standard ProGrab hardware is PAL/SECAM/NTSC compatible. Interlace mode options are available with PAL & SECAM only.*
ProGrab supports any Amiga with Kickstart 2.04 or later and a minimum of 1.5Mb free RAM.

PCMCIA Interface - A600/1200

ProGrab's optional PCMCIA Interface includes the latest version software and extends performance for serious or professional users - offering the following benefits...

- Faster downloading times (up to FIVE times quicker)
- Improved animation speeds of up to 11fps (mono) and 3.5fps (colour)
- Saving of animations direct to your Amiga's hard drive
- Freeing of your Amiga's parallel port for use by a printer or other peripheral
- Sound sampling and animation capabilities (separate sound sampler required, see right)

PCMCIA Interface LOWER PRICE! **£29.95**

Stereo Sound Sampler

Fantastic high quality 8-Bit Sound Sampler specifically designed for use with the ProGrab 24RT digitiser (PCMCIA Interface is also required).



This Hi-Fi sampler features the same 30MHz A/D convertor used in the ProGrab, maximum frequency is therefore only limited by your Amiga hardware.

Featuring a band width of 40Hz to 20KHz, quality is higher than standard samplers.

Hi-Fi Stereo Sampler **£24.95**

ProTel™ Terrestrial/Satellite Teletext Decoders

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Stand alone unit designed to match your Amiga allowing files to be exported as ASCII Text for use in your word processor or saved as IFF graphics for DTP presentations.

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NEW

ProTel PC Teletext Decoder - internal ISA PC card:

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- Capture speeds of 1000 pages in 2 mins
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- Requires 386DX PC and 8Mb RAM (12Mb Rec.), Windows '95/3.1 or Workgroup 3.11, VGA display, Mouse and 1 free 8/16Bit ISA slot - MINIMUM
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ProTel™ PC Teletext Decoder £29.95

Camcorder User commented... "If you're looking for a high resolution 24 bit digitiser then, at this price, ProGrab 24RT represents great value for money."

ProGrab™ - Voted as The Best Video Hardware *product for the Amiga. Especially pleasing because the award comes from Amiga Shopper magazine's readers... Satisfied Customers!*

ProGrab™ - Amiga Format 93% Gold Rating *and comments like... "ProGrab 24RT Plus is quite simply the digitiser to get", "Incredible value for money - no other digitiser offers so much for so little" and "Offers far more features than any other digitiser near the same price"*

ProGrab™ - Amiga Shopper 95% STAR Buy *and remarks like... "Sharp, crisp and faithful to the original colours, we were mightily impressed" and... "Highly Recommended. Whether you are a Videographer or a Graphic Artist, look to the ProGrab 24RT Plus. It's a winner"*
Hi-Fi Stereo Sampler - Amiga Shopper 92% STAR Buy April 1997.

CU Amiga said ProGrab™ is... "Just the job for beginners and semi-professionals on a tight budget" and, "very hard to beat. For the money, nothing can touch it"

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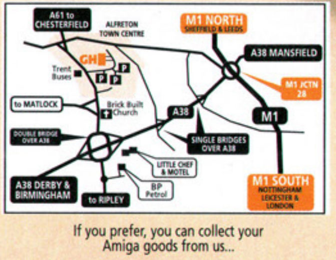
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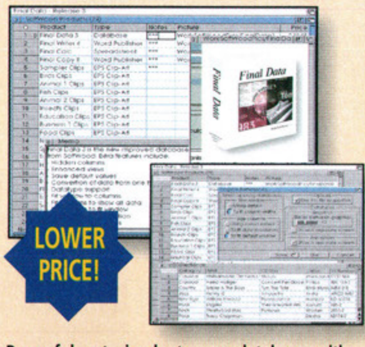
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Just like your Amiga, all Macs are Motorola based but have had the advantage of PowerPC RISC CPUs for some time - remember, even Pentium PCs in Windows™ systems are still merely CISC processors! Like the Amiga, Macs were designed from the outset to be an easy to use system with their windowing environment fully integrated - not bolted on later. And... Macs not only outperform other PC systems, but have recently become very competitively priced too.



Software: there are over 1800 titles specifically written for PowerPC Macs alone, plus thousands from pre PowerPC days which are still compatible. Industry standards such as Word, Pagestream, Word Perfect, FileMaker Pro, Excel, Quark XPress, Photoshop and many others have been developed for Macs.
Creativity: Apple still lead the creative world - 80% market share in colour publishing, most web sites are authored with Macs and post production video editing is dominated by the Macintosh too.
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Internet and Communications: all Macs are Internet Ready - many include built in modems and fax facilities etc. and standards like Netscape and Internet Explorer ensure the Net is easily accessible.
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Nintendo Emulators

Simon Goodwin is your guide to the burgeoning range of emulators that run Nintendo Entertainment System cartridges on your Amiga.

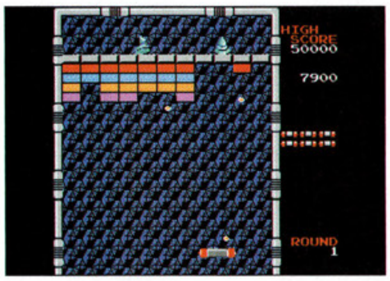


AFCD20:-In_the_Mag-/Emulators

The Nintendo Emulation System, or NES, was the first successful games console from the Far East. Introduced, in Japan at least, a year before the Amiga, the NES capitalised on the slump in US video game sales in the mid-1980s, stepped into the gap, and sold millions all over the world.



Galaga, Namco's Space Invaders with knobs on.



Arkanoid – Taito bring Nolan Bushnell's *Breakout* into the '80s.

ON THE COVER CD

There are four NES emulators on the AF Cover CD, plus workbench-friendly launchers, Nintendo system documentation and tools for examining cartridge files and 6502 machine code. Nintendo ROMs are copyright and are not included, but plentiful on the Internet.

NES Emulators at a glance

	ANES	AmiNES	CoolNES	DarkNES
VERSION	0.28b	0.1b	0.39b	0.13
NATION	Sweden	Spain	Sweden	Canada
DOCUMENTATION	15K Guide	1K Text	8K Guide	5K Text
LANGUAGE	Asm	Asm	Asm	C
CODE SIZE	14K	18K	16K	36K
SOUND	No	No	Yes	No
HARDWARE	AGA,020+	AGA,020+	AGA,020+	020+
CONTROLS	Key/1JS Key/Pad/JS	Key/2JS	Key/2JS	GUI
	Yes	Yes	Ish	No
GAME SAVE	Yes	No	Yes	Yes
MULTITASKING	No	No	No	Yes
PRICE	Free	Free	£12	Free



> A year ago there were no NES emulators on Aminet, now there are four and new versions appear weekly.

Nintendo moved into video games in the 1970s, programming classics like *Donkey Kong* for Atari coin-op hardware. The NES is little more advanced than the Atari consoles it usurped, with exactly the same aim – to pack lots of graphics and gameplay into small ROM cartridges, and sell each title for a large sum. Priced for impulse buys, with classic games like *Mario Brothers*, and a lucrative royalty to Nintendo on every game sold, the NES was a marketing phenomenon. By 1992 it had sold 30 million units in the USA alone.

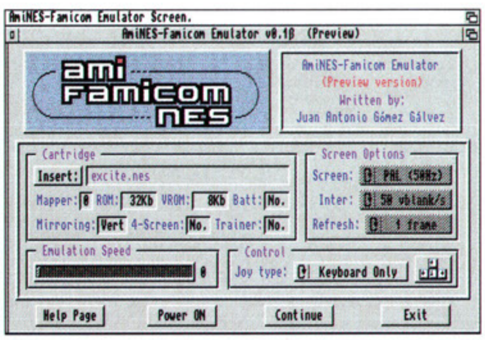
PLAYABILITY

Despite the Japanese reputation for unoriginality, and simple graphics, the games on the NES are first rate. Firms like Namco (*Pacman, Galaxian, DigDug*), Konami (*Castlevania, Ninja Turtles*), Taito (*Space Invaders, Arcanoid*) and Nintendo themselves might lack expertise in strategy and simulations, but the playability of their titles, honed in the arcades, is exceptional. For all the strengths of the Amiga, Nintendo emulation is not to be sniffed at. A year ago there were no NES emulators on Aminet, now there are four and new versions appear weekly.

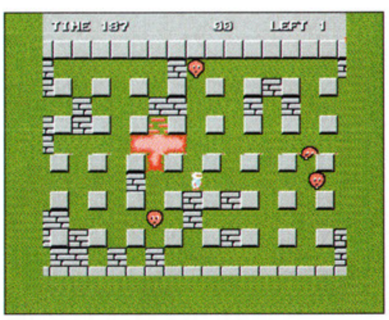
A/NES and *CoolNES* hail from Sweden; *DarkNESs* is the Canadian entry and the newest arrival, *AmiNES* comes from Barcelona. Unix devotees may choose *iNES*, from Marat Fayzullin. Marat has influenced all the Amiga NES emulators through his PD Unix code and technical documentation.

CHALLENGE

NES emulation is tough, even on a 32-bit Amiga, because there's a serious lack of documentation. Nintendo taxed



AmiNES has the best GUI of Amiga NES emulators.



BomberMan suffers a bit without sound.

HOME PAGES

Amiga Emulators:
http://www.pncl.co.uk/~martinc/emulators/
A/NES:
http://home2.swipnet.se/~w-28134/ANES/
CoolNESs:
http://hem2.passagen.se/flubba/
Marat Fayzullin:
http://www.freeflight.com/fms/

developers heavily for the privilege of writing for the NES, vetted their software and tried to keep the works a secret. This had the desired result of keeping software prices – and, in general, quality – high, but it makes emulation challenging.

The minimal console hardware, and relatively high software prices, encouraged Nintendo to put extra hardware in the cartridges. They augmented the main game ROM with extra RAM – including permanent memory for high scores and game positions – and circuits to improve graphics and game timing.

MAPPING

The original limit of 32 kilobytes per program – generously described as 256k (in bits!) by Nintendo – was soon a restriction and hardware was extended to allow more memory, by 'mapping' it piecemeal into the 8-bit processor's space. Emulators must mimic not only the console but also the 'mapper' in each cartridge. This has been the main area of refinement since the first Amiga NES emulators arrived.

Mappers may contain code or graphics in ROM, VRAM for video images, or non-volatile RAM for saved games. A utility on *AFCD20* extracts the mapper number and other details from a .NES ROM image file.

Low numbers are the most common. 0 is the simplest, a single-page ROM. *Zelda* uses Mapper 1 to control its 128k. Most Konami games use mapper 2, which gives one fixed and one switchable 16k page. Mapper 3 uses a fixed program and switchable graphics pages, mapper four allows scan-line interrupts, and so on. The mapper support table shows the claimed compatibility of emulators and mappers.

GRAPHICS

The NES display background is built up from 1024 tiles, each eight by eight pixels wide. Attribute graphics allow 16 colours, represented by four bits. Two bits are stored in each tile, and the other two come from attributes which select four from sixteen colours, in 32x32 pixel blocks.

The whole screen is encoded in just 1024 bytes for the tile numbers, and 64 attribute bytes. Each tile pattern needs 16 bytes, but tiles can be re-used and re-coloured without taking any more memory. Large scale animation is



***Centipede* in a Unix X-window.**

possible by changing tile patterns during vertical blanking of the display.

Thus a big map can be stored in a relatively small ROM. It's a kind of hardware graphics compression that's tough to emulate, even with the Amiga's custom chip assistance. Vertical and horizontal scrolling depends in part on the cartridge, rather than just the console hardware. Emulator switches toggle 'vertical and horizontal mirroring' if the default gives a scrambled screen.

The background image in memory is 256 pixels square, trimmed vertically to 240 pixels for European displays and 224 for the US and Japan. Amiga displays with 224 lines require PAL mode, or NTSC overscan, which upsets a few US displays. The image occupies about three quarters the width of a PAL overscan display.

> Typical NES games use repetitive backgrounds... with player characters and powerups superimposed.



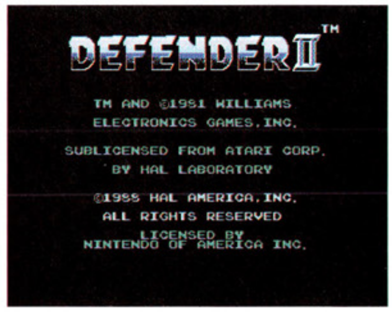
Scrolling NES shoot-em-up *Argus*.



***Contra* is a good test of horizontal scrolling.**

Typical NES games use repetitive backgrounds like platforms, with player characters and powerups superimposed. Sprites are overlaid on the background and use the same tiling scheme, except sprite tiles can be twice as tall – up to eight sprites can appear on each line.

Sprites and background have separate palettes so most emulators simplify processing, at the expense of



***Defender 2*, another very playable NES cartridge.**

graphics speed, by using a custom eight-plane AGA display.

The NES has five audio channels including PCM for short samples, one for 'noise', and three for periodic pulse or triangle waveforms. These are relatively hard to emulate because the NES can vary the pitch of the waves, as well as the volume, dynamically as notes are played. This does not mesh well with the Amiga's approach, based on playing samples at adjustable – but generally steady – rates.

A/NES

A/NES is a team effort from Morgan Johansson and Fredrik Schultz. A simple GUI uses the supplied Nintendo fonts, though the task and AmigaGuide lack Workbench icons. You get a 6502 register display, and can save game positions and preferences.

A/NES requires AGA, but a slower ECS version is promised, along with Action Replay emulation. Speed varies with the amount of activity on the screen, as delta buffering is used to optimise updates. Overall it's pretty fast, and runs simpler games nicely, but there are sometimes conspicuous bugs in its background handling. Sound is not supported, and described as 'low priority' – which seems a pity.

AMINES

I beta-tested *AmiNES* and the first release, version 0.1, recently reached Aminet. As the name suggests, *AmiNES* is a sibling of *AmiGameBoy* and *AmiMasterGear* from the prolific Juan Gomez. It has the familar neat GUI, with support for keyboard, CD^{32} gamepads or joysticks with one or two buttons, but few other frills.

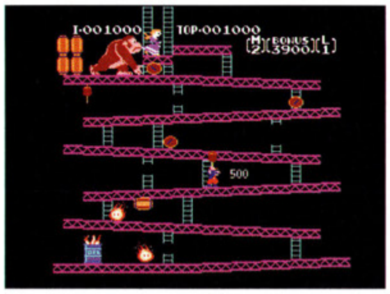
Sprites hop eight pixels at a time and are not masked so they appear on a box on top of the background. There's no sound and horizontal mirroring of sprites is ignored. *Millipede* and *Arkanoid* run well, if a little unevenly. *Pinball* was playable despite the sliced appearance of the right flipper.

Balloon Flight and *Nintendo Tennis* show similar cosmetic problems. *Popeye & Donkey Kong* sprites appeared corrupt when they were moving from right to

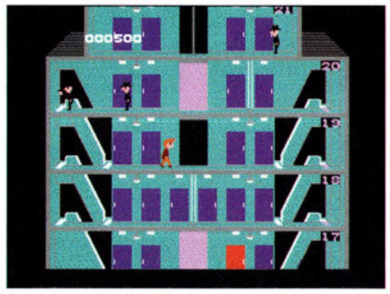
Continued overleaf ➡

CARTRIDGE MAPPER SUPPORT

	AMINES	ANES	COOLNESS	DARKNESS
0	100%	100%	100%	100%
1	No	Some	Some	90%
2	Some	100%	Some	100%
3	No	100%	100%	100%
4	No	Some	No	70%
7	No	Some	100%	40%
9	No	100%	100%	Maybe
11	No	No	No	80%



Nintendo mascot *Mario's* first outing



Elevator Action gives your emulator a lift.

left, and the sprites in *MsPacMan* wander all over the place, making the game pointless.

Several games were completely unplayable. The sprites in *Contra* were only half-visible. *BomberMan*, *Defender II* and *Excite Bike* all got stuck at the start, and *Galaga* threw up a despairing "La pila se ha ido a la mierda!" requestor! *Zelda* and *Bump'n'Jump* required mappers which are not yet supported. *AmiNES* is fast, when it works, but as yet it's the least compatible. With MSX, Game Boy and Sega emulators already out, perhaps Juan has eyes bigger than his stomach, but he's making progress.

COOLNESS

CoolNESs is the second contender from Sweden, from lone hacker Fredrik Olsson. It outpaces *A/NES* and has impressively fast and smooth scrolling but, like *AmiNES*, sprites jump in eight pixel steps, rather than glide smoothly across the screen. This is the only emulator supplied 'crippled' on Aminet – unless you send £12 to register there's a time limit. Registering also gets you sound support which makes the games much more fun to play. Support for two button joysticks also helps. *CoolNESs* starts from a Workbench icon, and displays a file requestor in the current directory before opening its own custom PAL screen. You must restart for each game. *CyberSnooper* caught some non-68060 instructions which my Cyberstorm had to emulate.

The *Defender II* background scrolls well but the foreground moves jerkily with some sprite glitches. The radar frame scrolled when it should not, but the radar points stayed in the right place, so the game was still playable. Sprite problems also affected *Zelda* and *Adventure Island*, though not enough to prevent play.

Frederik plans to fix the sprites, adding support for mapper 1 and ECS graphics. The sound needs more work, but it is a unique selling point.

DARKNESS

DarkNESs is Mark Van Hal's Amiga port of *iNES* from Unix. It's compiled with GCC and again uses 64-bit instructions the 68060 must interpret, including some which cast serious doubt on the Gnu C optimiser!

Mark plans a hand-coded version – version 0.13 is a bit sluggish even with a Cyberstorm 68060. Performance on a 32MHz Warp Engine 68040 is unbearably slow unless the display update rate is dramatically reduced.

On the bright side, *DarkNESs* does not require AGA, unlike the others. It works with PicassoII RTG, looking great in 320x240 mode, but updates are slower than with AGA. The reduced requirement for display planes boosts AGA and hampers the graphics card. It's still impressive that it works, and a good sign for future compatibility. *QuickGrab* had no trouble snaffling pictures for this article from its ECS, AGA and RTG displays. So far *DarkNESs* has no GUI although simple add-on ones are on Aminet.

Arkanoid is smooth but sluggish when played at 25 FPS, claiming 41 per cent speed on a 50MHz Cyberstorm. A Warp Engine 68040 with Picasso 2+ managed 18 per cent and 11 FPS, rising to 31 per cent and a reasonable 19 FPS in PAL mode; slightly less in DBLPAL Lo-Res with Mode Promotion. A faster graphics card might reverse the gap, but this is a CPU-intensive emulator. Display updates were noticeably jerky, especially when scrolling, but many games were playable with a bit of tuning. *Defender II* was particularly good fun, but perhaps I'm too old for the real thing, these days! The lack of sound though, does make it a little hard to tell what's going on during pauses in the action.

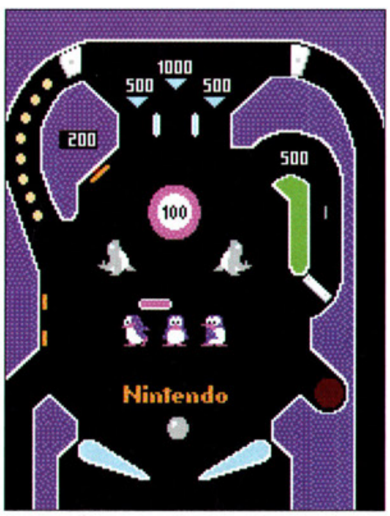
After extensive tests, Mark reckons that 102 games work fine, 15 are glitchy, and 13 fail, out of the 130 he's tried. My experience bore this out – particularly in its sprite handling, *DarkNESs* shows fewer flaws than its rivals. You may need to press a key to toggle mirroring if the preset .NES file header misrepresents the expected graphics organisation. *DarkNESs* works this out automatically for mappers one and four so it's rarely an issue.

DarkNESs is system friendly and the best choice for Power Amiga or 68060 users – it's too slow for lesser beings.

COMPARISONS

CoolNESs has the great advantage of sound, once registered. *AmiNES* is fast but poor sprite and mapper handing means it cannot yet be recommended.

A/NES shows promise but weird background effects make some games unplayable. *DarkNESs* is the most compatible, though still not perfect, and by far the slowest. It's probably easier to speed up a correct program than to fix a fast one, so *DarkNESs* may be the one to watch. If you can run Linux 68k or NetBSD, Marat's *iNES* deserves consideration. *iNES* is slow but accurate, with good sound. NES emulation is fast-advancing, and all these emulators are likely to develop over the coming months.



TV display width is a challenge for Pinball simulations.



Giant snails and skateboards in the bizarre *Adventure Island*.



The NES incarnation of *Joust*.

MEANWHILE...

...new emulators roll in, several older ones await scrutiny, and AF102's data emulation feature needs a follow-up to discuss data formats and conversion tools.

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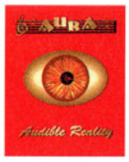
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SCREENPLAY



Andy Smith

Start this month in the Previews section and you can't help but have your spirits lifted. Sadly space ran out before we could squeeze all the pics in, which in some ways is a good thing. The games scene is still buzzing. Next, skip right along to the Re-releases section and be pleased that such high quality games are available again. Then jump back to the game reviews and see if there's anything that takes your fancy. If there's nothing to catch your eye this month then don't worry, there's plenty more just round the corner and some of it looks like it's going to be well worth waiting for. Right then, onto the Previews section and that new pinball game. Enjoy the mag...

The latest games, the handiest hints and some clever programming from you!

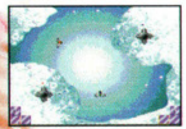
AMIGA FORMAT'S REVIEW POLICY

WHAT OUR REVIEW SCORES MEAN

Every month we scour the world's software houses for the latest and greatest Amiga games. We try to ensure we keep you as up to date as possible and we'll stop at nothing to bring you the best, definitive, no-nonsense reviews of the games that matter.

90+%	The crème de la crème. Only the very best, most playable and original games are awarded an AF Gold – the most highly prized rating there is.
80-89%	These games are very good, but due to minor flaws are not the finest examples of their genre.
70-79%	Good games which are worth buying, especially if you have a special interest in a game type.
60-69%	Average releases with somewhat limited gameplay and appeal. Games in this category tend to be flawed.
50-59%	Below average games which are unlikely to impress your mates or your wallet. Avoid.
40-49%	Overwhelmingly poor quality games with major flaws and appalling gameplay.
Under 40%	The absolute pits.

Previews






In the run-up to Christmas Epic Marketing keep their release schedule chocka with new games, Andy Smith checks out all that's heading our way soon...

Pinball Brain Damage



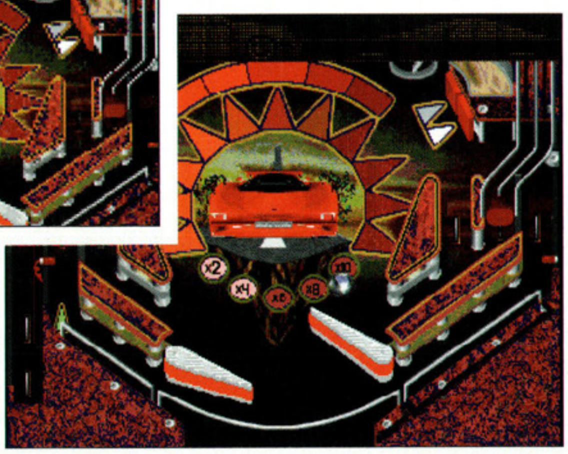
Pinball Brain Damage	£TBA
Available:	Soon
Epic Marketing:	01793 490988
Fax:	01793 514187
email:	epicmarketing@dialin.net

There hasn't been a decent pinball game to review for a while now. Indeed, you'd be forgiven for thinking that the pinball market was well and truly covered thanks to 21st Century's various releases over the past few years (*Pinball Fantasies*, *Pinball Illusions* et al), but there's always room for improvement and Epic reckon they've found the game that's the last word in pinball sims.

It's an AGA-only game that features several tables and also has an editor so you can create your own tables. There's a multi-ball feature so you can have three of the little steel tinkers clanging around at once and when you do get the multi-ball everything switches from the normal Hi-Res viewing mode to Super Hi-Res. Epic are very proud of the fact that eight different material characteristics are taken into account for the table objects so that the ball rebounds are very realistic. Possibly the biggest area of importance in a pinball game though is just how realistic that ball moves and Epic reckon that in *Pinball Brain Damage* the ball's parameters are recalculated some 400 times per second (that's each ball mind) to get the ball movement spot on. Again, release details are sketchy, but Epic do tell us that there will be two versions of the game – a HD installable version complete with animations and a three disk floppy, non-installable version for those without hard disks. Expect a full review in a forthcoming issue of *Amiga Format*.



That table in full. Groovy eh? You can almost hear the balls bumping around can't you? Without the crap pub jukebox in the background...





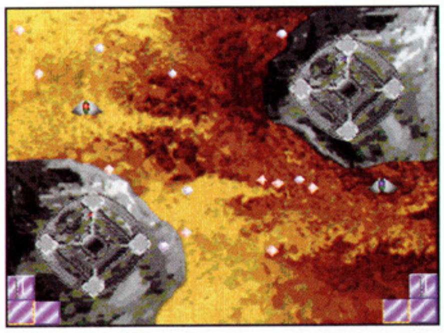
This super Hi-Res mode is reserved for the multi-ball part of the game. Normally things look like the screenshot on the left here.

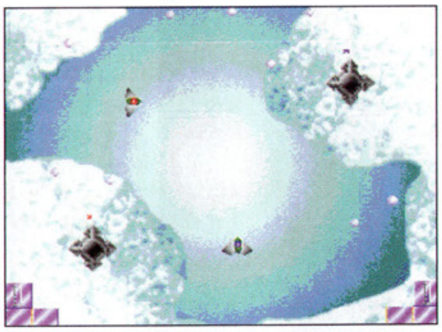
Nemeses

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Here's a curious little title from a new outfit called Jay Software. Subtitled *Inevitable Retribution* the idea of the the game's to destroy your opponent's base, but in a very unconventional manner.

Each player (you can play against the computer if you're a Billy no mates) controls a small spaceship (viewed from above). The general idea's to fly your ship around the screen over a themed landscape (arctic waste, desert and so on) and collect little pink pills (other coloured pills make an appearance later on and each differently coloured pill has a different property). Collect enough pills and a small icon of a cannon or machine gun (the weapon depends on the number of pills you've collected – the more you get the beefier your weapon) appears. Press fire and your base then starts firing that weapon at the other base. Essentially, you're collecting ammunition for your base to fire at the opponent's base. Simple enough eh?


And just to show that you're not flying over an arctic waste the whole time, here's a volcano level. Very pretty.


Red and blue spaceships race to catch the small pills. Get enough and you can start blasting the other guy's base.

But it's the control of the spaceships that's rather clever. The system's very simple – push up to go up and so on, but it takes some getting used to. The other spaceship's flying around for a start and collisions are frequent. Fortunately though, colliding with your adversary is not harmful, it just wastes time. Although this hasn't had a full work-out yet it's got the team's eyebrows raised because it's a pure frantic action competitive game. Unfortunately we don't know when it's going to be available (soon is all Epic can tell us) but we do know we're looking forward to getting the finished version to review.

Skimmers

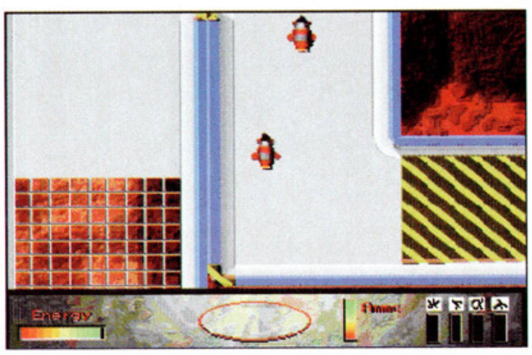
Skimmers .... £TBA
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Due out shortly is this racing/battle game. Four gangs are fighting for control of a planet by winning bits of neighbouring territory in futuristic races.

Pick your piece of land and then race against the other players – beat them all and you get to keep the piece of land. The winner's the person who manages to get all the land. And of course the racing bit's the best part. It's a viewed from above, *Micro Machines* style affair that has obstacles on the course to avoid. That's one thing but even worse is the fact that all skimmers are armed. Load up at the start of the race with all manner of missiles and guns and as soon as the green light comes on, let loose with them all. Obviously the other guys are going to be doing it to you too!



Winning a race is not essential but scoring enough 'blood points' is. These are earned by the number of laps you complete and the amount of damage and distress you manage to cause the other guys. Do well and you win the territory. But you've got to keep doing well because before long you're going to be challenged for a piece of your land and you're going to have to score a fair few blood points to hang on to it. We like a good racing/shooting game here on *Amiga Format*, so look out for a full review in the near future.


Your skimmers racing for a planet territory. If someone gets in front of you, let loose with a missile to remind 'em why that's not a good idea.


Capture adjoining territories one by one and hopefully gain control of the whole planet.

And Finally...

Epic have also got a couple of other games in development that we couldn't resist telling you about. Unfortunately details are a little scant at the mo but see what you think these sound like...

Phoenix

Phoenix is a 'new space trading adventure type' game. And that's all we know. Still have a look at the screenshots, and we'll bring you more details on price and release date just as soon as we get 'em.





Pulsator

Again, all we've been told is that this is 'an amazing new horizontal shoot-em-up'. And judging by the screenshots, they could well be right. Watch this space for more info and in the meantime, feast your peepers.





Cygnus 8

Andy Smith, Amiga Format's very own Buck Rogers, takes to the space lanes in search of fame, fortune and pirates...



Yes, well all the characters in the game look as happy as this chap.

Not that the pirates will stand much chance when I catch up with 'em. I can tell you. *Cygnus 8* is a space trading/combat/survival game based around eight planets.

The trading's the game's main focus, so that's where we'll start. At the beginning of the game you're given 1,500 credits and it's by buying goods from the dozen or so shops that each planet has and then selling them on another planet that your starting funds start to grow. Suppose you're on Sirius and they're selling rare plants for four credits per plant, load up with as many as you think is wise (you can only carry up to 999 of any one product but you could, theoretically at least, have 999 of everything) then call up the price list which shows how much each item costs on each planet. If Altair buys rare plants for eight credits a plant, that's a 100% profit on the deal, so head there. It's simple stuff, but play cautiously at the beginning because it can actually turn out to be very easy to lose all your money at the start and here's why.

> **"You're always given the opportunity to rob places, but the more you steal the greater your risk of being caught."**

A day in the life...

Each game 'day' comprises several phases: morning, midday, afternoon, early and late evening and night. As the day progresses your character becomes hungry and must be fed (no food for a prolonged period of time results in death donchaknow) and after a period of not sleeping, your character must find a bed for the night (each planet has a pub and hotel on it, both of which provide cheap, standard and luxury accommodation). A good night's kip reduces your character's fatigue level (generally the more money you spend on a room, the better quality sleep your character will have, but this is not guaranteed) which is fine, but go a night or two without



Once you've got a few credits spare, stick 'em in the bank to earn you some interest.



With a whole hold full of circuit boards that only cost 11 credits each, I'm bound to make a killing when I move onto another planet. Typically I should be able to flog 'em for about 20 creds each. Making a total profit of, er, erm, 8991?



Ah. Getting to another planet involves either buying or stealing a passport from somewhere (a clue: buy it from the General Store).



When you go to the Ministry, you get to choose what mission you want to do.



Getting plenty of rest is crucial if you're not going to collapse from exhaustion every other day.

sleeping and your character's going to collapse. Not good. At the start of the game it can be tricky to earn enough money to simply survive, let alone go into profit.

Risky business

Because the day's kind of dynamic like this, it does mean that you can't just wander into a shop at any time of the day or night and buy and sell goods. The shops shut sometimes and if you decide to be a bit sneaky you might want to pick the middle of the night to go visiting. You're always given the opportunity to rob places, but the more you chance to steal the greater your risk of being caught. You might have to resort to this on occasion, but once you get into trading it shouldn't be too long before you can live on the right side of the law.

Another handy way to make some money is to put your money into the bank. They generally pay a decent interest rate, so you can just leave your money to grow while you go off doing good citizen things for a few days.

And once you've decided to become a good citizen, you'll want to start tackling the game's 18 missions. On each planet there's a Cygnax Military HQ and they dole out missions – starting with easy ones and progressively getting harder. Complete each mission (they come in batches of three for each difficulty level) and report back to the HQ for your reward and a new mission.

These missions will often involve having to go and eliminate some space pirates and this is where the, ahem, combat part of the game comes in. Every time you leave a planet the view changes to show your little space craft. This can then be flown to other planets simply by holding down the firebutton and steering. Get over the planet of your choice and push down on the joystick to land. Simple. Well, it would be but space is constantly full of asteroids which have an unnerving tendency to knock you all over the place – harming your shields which can be fatal. Still once you get to your planet you can refuel and repair your shields, so that's alright.

Pirates in space

Unless the planet you're visiting has some space pirates around it. You'll know if it does because a large skull and crossbones will be pasted over the planet.

Suppose we've visited one such place. The screen switches to show a line of the baddies at the top of the screen. You now have a few shots to take out the baddies (aiming is almost automatic, just move the turret on your little tank-thing at the bottom of the screen left and right). Once you've run out of shot power your turn's over and the pirates get to shoot at you. If your shields are depleted before theirs then you explode and it's game over. If you've managed to complete a couple of missions before this happens you'll get a password that allows you start from almost where you were (but you'll have lost any money you had stored in banks, so it's still not a good idea to die if you can help it).



Flying through space. That's you there on the right, near the bottom. Mind the asteroids.

> "The trading's dull once you've got the hang of it even staying in luxury hotel rooms is dull."



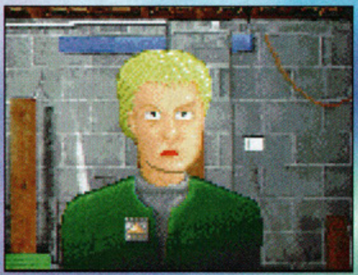
Fighting the space pirates (right). Yes, this really is as exciting as the combat stages get. On Aldebaran in the afternoon. No, really.



Dull

And that's about the size of *Cygnus 8*. And if it didn't sound like a particularly thrilling game, that's because it isn't. The trading's dull once you've got the hang of it and started to make money (what do you spend 60,000 credits on? Even staying in luxury hotel rooms is dull) and the combat's tedious. Possibly the most annoying thing about the game is not being able to save it – die and it's back to the trading to get some money.

Cygnus 8 just doesn't have enough in it to get you excited. Playing soon becomes more of a chore than a pleasurable experience. It's not dreadful, just not very entertaining that's all.



Another terribly happy person just itching to serve you and make your day special.

PUBLISHER: Epic Marketing 01793 514188
PRICE: £14.99
VERSIONS: All Amigas
REQUIREMENTS: 1Mb
RELEASE DATE: Out now

GRAPHICS: ●●○○○
Distinctly ropey characters but all the icons and things are fine. Not very exciting visually.

SOUND: ●●●○○
A jolly ditty plays throughout. You'll probably want to lose it sooner rather than later.

ADDICTION: ●●○○○
Start making money and it's fun for a while but the fun soon wears off.

PLAYABILITY: ●●●○○
Very easy to play because there's not a great deal to do.

OVERALL VERDICT:
It's not a dreadful game but there's just not enough of substance here.

55%

Master Axe

Andy Smith can normally be found grinding away in the local nightspots (it's a sad sight), but here he's grinding his axe...



Quite clearly this is the game mode selection screen. And it looks like we're about to have a one player hi impact tournament. Yes, I think that's perfectly obvious.

> "Obviously this is a game that benefits from the two-player mode. In fact that's the only thing going for it."



Work your way from New York to LA. But not on a bicycle. Florida looks very odd to me...



The quality of the graphics is generally very high. This indian's leg looks a bit crap though.



Still, it's powerful enough to knock the other onto his back. Anyone for a rain dance?

This is a bit of a strange one this, especially because I've no idea whether it's based on fact or fiction. Go to the Endurance option where you're fighting a series of bouts in various locations around the USA and the intro blurb tells you "In 1988 Master Axe led his three students on an epic 3,300 mile cycle/sparring quest from New York to San Diego. They took part in over forty good will bouts along the way. Now is your chance to re-live this modern day crusade..."

Fact or fiction?

Whether this actually happened or not I've no idea. Whether this *Master Axe* chap exists or not, I've no idea. I do, however, know that he's lent his name to a rather dodgy beat-em-up.

The one player Endurance option is probably the game's best option, even though there's not a bicycle in sight, because the Hi-Impact Tournament option is just bizarre. Select your character (there are some eight to choose from) and fight a bout. Win the first bout and erm, you win the tournament. Game Over. Lose the bout however and you have the chance to become the character that beat you and fight in the semi-finals anyway. Lose here and you get to fight in the final as the character that defeated you in the semi's. It don't make much sense to me.

Shadow fighting

Still, it makes more sense than the Spiritual Warrior option. In this mode it's you versus a shadow image of whatever character you're supposed to be. Apparently you're fighting your inner self (the hardest thing to fight against if the game's to be believed), start to win the bout and your opponent becomes solid. Win the bout and that's the end of that.

Each bout is the standard best out of three affair, with or without a timer if you like. Reach the end of the time allocated for the bout and if it hasn't been resolved in a knockout then the person with the most energy left wins. The training mode's pretty ropey too – a quick bout and it's all over.

Obviously this is a game that benefits from the two player mode. In fact that's the only thing going for it. In one player mode you'll find that as soon as you've learnt a decent move or two you simply have to keep



The four main game characters, including Master Axe on the left here. Angry looking fellow isn't he. Master Axe likes to go for the odd bike ride apparently, though there's none of that in the game. A shame really because that might have made it more fun to play.



Player one celebrates by giving thanks to a sinister looking cloud.



1 "C'mon then Captain America" said the Jean-Claude Van Dammalike.

2 Captain America bloke cunningly hides himself in the background scenery.

3 But it's not enough to protect him from Jean-Claude's very shiny toenails.

4 And with his attention distracted, Captain America bloke falls prey to an attack.



The game's characters. They all look a bit dodgy, especially pouting cop in the top left corner.

repeating them to defeat whoever you're up against. This doesn't work quite so well in two player mode because your mate's bound to learn a move that counters yours. It still won't be much fun because it's all so well, flat really.

The hidden locations attempt to make the gameplay a little less flat. At the start of the Endurance game you should normally be fighting some FBI chap outside the whitehouse (he's armed with some kind of stun gun which takes half your energy with every hit so it's a little weighted in his favour) and for some random reason you have to fight someone else on top of a New York building beforehand. Why this should happen on some occasions and not others is beyond me.

Hidden features

There are some hidden features to be discovered including the rather hilarious 'Turbo Mode'. Manage to activate this and the fighters fly around the screen at an impressive rate. It's completely unplayable but it's a great laff and it does mean you get the bouts finished in just a few seconds. Even so, the hidden extras don't manage to lift the playing experience beyond slightly tedious.

The gameplay's straight down the line with little to grab your interest. The graphics are very nice, there's loads of animation and some rather nice effects, but they can't cover the ropey gameplay. It's stilted as well as flat. It must be said though that at least the programmers have given each of the game's characters a different fighting style, so you can at least vary the action by choosing someone else to fight as.

The music's alright, but the sound effects are horrid – I've heard better sounds sampled in someone's dustbin. It's a shame that the programmers spent so much effort getting the game to look good, that they forgot it should be good to play too. This isn't, so don't buy it.



Curiously, you only have to win one bout to automatically win the rest of the tournament.



Mr Loincloth was impressed with the breakdance.



Mind the chap on the left's stun gun. It smarts.



This chap who's jumping through the timer is a bit handy with that cane of his. Just a couple of hits from it will wipe your energy completely.



Both fighters have won one bout each but the guy on the left has discovered a move that his mate can't counter.



In Spiritual Warrior mode you get to fight against a shadow of yourself. This represents battling with your inner self. Of course.

PUBLISHER: Epic Marketing 01793 514188
PRICE: £14.99
VERSIONS: All Amigas
REQUIREMENTS: 1Mb
RELEASE DATE: Out now

GRAPHICS: ●●●●○
The animation's not the smoothest in the world but it's passable.

SOUND: ●●○○○
Oh dear. We expect to be able to hear samples clearly these days.

ADDICTION: ●●○○○
Just a couple of bouts should be enough to put you off playing again.

PLAYABILITY: ●●●○○
Easy enough. Once you've found a couple of decent moves you can stick with 'em.

OVERALL VERDICT:
Bizarre game structure and dodgy gameplay. Steer clear of this one.

40%

Dune II



There's a quick history lesson from a very nice lady when you choose what house to belong to.



The start of a scenario. Getting equipped quickly at the beginning is the key to success.

Command and Conquer's forefather is back on the scene thanks to Guildhall. Andy Smith explains why it's his sixth favourite Amiga game of all time.



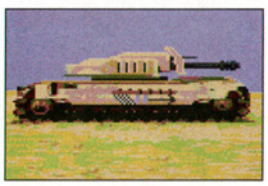
The construction yard. Don't let the enemy get anywhere near it.



Your harvester collects some more lovely spice. It's nice and near to your refinery too. Handy.



Storming an enemy base. Hurrah!



That'll be a nice porky tank then.

Maybe sixth best of all time was a bit harsh because this truly is one of the best Amiga games ever written. Based on the planet Arrakis, it's a one player wargame centred around three clans, or houses, battling for control of the planet and the spice that the planet produces.

The game's mission-based and usually involves collecting spice using large harvesters (destroyable, so if you see an enemy harvester, destroy it). The spice collected can be traded in for installations and troops. It's a resource management wargame.

> Because of its mission structure, Dune II is very difficult to leave alone once you've started.

At the start of each game you plonk down your production centre and send out your harvester. When it returns the spice is processed and you earn credits which you then spend on other installations (including gun turrets to protect your production centre, because once you lose it to enemy action you can't build and your game's effectively over). When you've accrued a sizeable army it's time to go and find the other houses and take them on. Hopefully you won't find both at the same time because then you'll find yourself fighting their combined might which can be tricky.

Different houses

One of the best things about *Dune II* is the way you can play the game as one house and when you've eventually worked your way through all of the missions you can go back and do it all over again as another house. This radically alters your playing style because each house has particular units and this affects your tactical thinking for each mission. Each house also has one special unit, for example the House of Ordos has Saboteurs – little men that can be told to go to an enemy installation and blow the thing up while the House of Harkonen has Death Hand missiles. Controlling and using your special units correctly can be the difference between success and failure on many missions.



The strategic map charting your progress across the planet Arrakis. Go to it House Atredies!

Because of its mission structure, *Dune II* is very difficult to leave alone once you've started. Playing is a treat because it's so simple and yet so challenging. The action's somewhere between manic 'oh my goodness, here they come!' crisis management to 'right, a decoy action on this side of the wall will draw his gun turrets while my tanks can sneak in through the backdoor' strategy planning. Fantastic stuff that really has only been bettered by *Command and Conquer*. Well worthy of your attention, admiration and money.

PUBLISHER: Guildhall Leisure 01302 890000
PRICE: £14.99
VERSIONS: All Amigas
REQUIREMENTS: 1Mb
RELEASE DATE: Out now

GRAPHICS: ●●●○○
Nothing very fancy but functional and clear – just what you need in a wargame.

SOUND: ●●●○○
Better than you might expect. Lots of radio communication and big, scary explosions.

ADDICTION: ●●●●●
You're eased in gently and then left on your own – you'll find it hard to get out again!

PLAYABILITY: ●●●●●
With such an intuitive control system you can't fail to hit the ground running.

OVERALL VERDICT:
An outstanding game that everyone should enjoy. Magnificent stuff.

94%

Cannon Fodder II



There are your chaps, hiding in the bushes at the bottom of the screen. Brave bunch of lads...

The follow up to one of Sensible Software's best selling games demands some attention. Andy Smith stands to and says 'Hut!' a lot...

Cannon Fodder took Sensible's little soccer chappies and put them in fatigues for a *Command and Conquer*esque mission-based wargame. *Cannon Fodder 2* here does the same thing but not quite so well.

This is just a straight sequel. Little's been added and little's been taken away. Just the missions are different. And difficult.

Take control of your small squad of squaddies and either collectively or individually guide them around the game's landscapes generally shooting the bad guys and blowing up their buildings. It's great fun all right and it's hard enough to challenge the best gamers (arguably too hard in some places).

In control

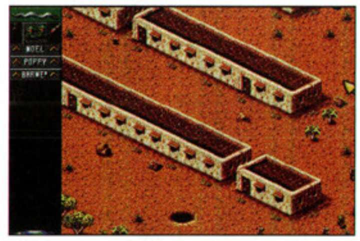
Controlling your squaddies is simple – left click the mouse to get them to go somewhere and right click the mouse to get them to fire. The position of the cross-hair controls your shooting direction. The squad will always follow their leader, which is great, but if you decide to send him into a minefield, the rest will happily plod along behind him.

When you're firing your machine guns (all of the squad members fire at the same target when you instruct them to) you don't have to worry about hitting other members of your squad but when you're chucking grenades (fresh supplies of which can be found by walking over the wooden boxes that litter the landscape) or firing rockets you have to make sure you're well out of the blast radius.

The same goes for when you're blowing up buildings. They do tend to have a nasty habit of sending their roofs into orbit only to come down in a random place and explode – this can wipe out your whole squad if you're not careful.

Should you lose members of your squad it's not disastrous because you get some more recruits for each mission but there is a finite number of recruits and once you've used all of these up it's game over. On the plus side though, get your squad through a mission (each mission consists of various phases, or sub-missions) and they earn themselves an extra stripe for their arms which does make you feel a little more protective towards them.

This sequel's not quite as good as the original game because the missions aren't as much fun. It's still a good game though and well worth the asking price. AF

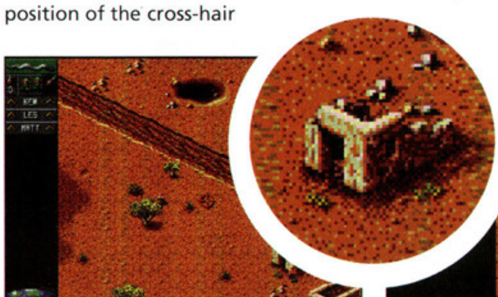


The enemy keep pouring out of these barracks.



A barren, war-torn landscape. Yesterday.

> "They do tend to have a **nasty habit** of sending their roofs into orbit only to come down in a random place and **explode**."

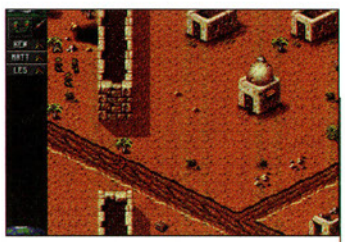


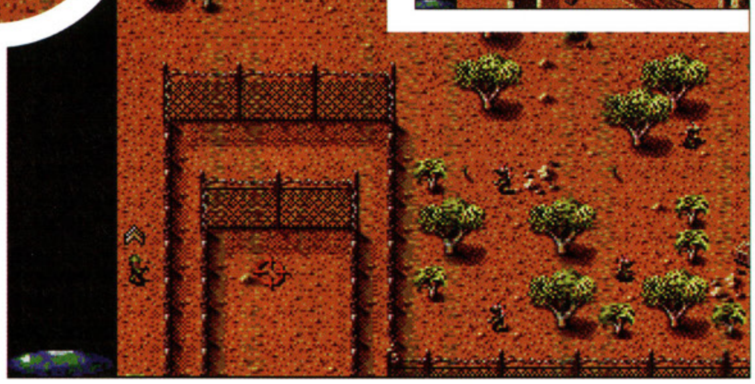
Your men fire where you direct the cross-hair.



This is what you want to see. Even when you're down to your last man, this is still possible.

When you come to blowing up that building (right) with the dome on it, watch out when the dome lands.





Hiding behind wire fences and firing through them is a perfectly respectable tactic. In my army anyway.

PUBLISHER: Guildhall Leisure 01302 890000
PRICE: £9.99
VERSIONS: All Amigas
REQUIREMENTS: 1Mb
RELEASE DATE: Out now

GRAPHICS: ●●●○○
It can be difficult to see some of the smaller objects but that's intentional.

SOUND: ●●●○○
Nice choons and good in-game effects. Again, not outstanding though.

ADDICTION: ●●●○○
You'll trundle along until you find a tough mission, then you'll get frustrated.

PLAYABILITY: ●●●●○
Simple and easy to play even when things start getting a little manic.

OVERALL VERDICT:
A fine game but not an all-time classic. At the price though it's got to be worth a look.

82%

Reader Games

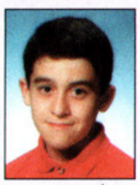
Steven Spielberg's first feature film was a low-budget thriller called Duel, starring Dennis Weaver. Andy Smith checks out the efforts of some potential Spielbergs. They are, of course, the...

ON THIS MONTH'S CD **AFCD20:-ReaderStuff-/-ReaderGames-**

The point here is that you don't need high-budget rendered cut-scenes or high production values to get your game idea across. All you need to do is get the basics there and let the game speak for itself. Reader Games is all about your efforts. *Amiga Format* casts its critical eye over your creations and offers help and a little guidance to keep you on the right track to a cracking game. The idea's not to lambast a game (though it's just too tempting not to sometimes) but to bring our years of gameplaying experience to bear and gently nudge a project back on the right path, if needs be.

And what do you get for your efforts? As well as having your game in *Amiga Format*, all Reader Games are featured on our cover CD where thousands of others can play them and even vote for their favourite one. And if that's not incentive enough then consider the fact that the month's Star Game wins its author a lovely crisp £50 cheque. Get that copy of Amos or Blitz or whatever out and let your fingers do the coding. Oh, and don't forget to include the disclaimer (bottom of the last page of Reader Games) along with your photograph when you send your game in.

GAME: Computer Capers AUTHOR: Tiago Silver LANGUAGE: Amos Pro



Attempting to create a role-playing game is hard enough, but when you're only 12 it's got to be a very steep hill to climb. Young Tiago here has at least had a go though. It doesn't actually turn out to be much of a role-playing game though, more a *Reality*-type game viewed in a basic Gameboy-type viewing mode. The *Reality* similarities come because actually playing the game simply involves walking up to a character in the wrap-round world and they'll tell you they can give you something in exchange for something else. All you have to do is wander around exchanging goodies.

But it's still a valiant effort. The graphics are obviously basic, but the sound track's boppy and jolly and at least you can control your main character easily enough (some instructions on what buttons to press to select your objects, or even how to quit having a conversation would have helped, Tiago).

As a game it's not a great deal of fun to play, but as an indication of what a young lad with a bit of determination and application can create then it deserves applause. Okay, so it's simplistic and basic but at least the game doesn't suffer from the kind of simple bugs that many older and more ambitious authors manage to let creep into their code. Keep it up Tiago, this is a laudable attempt.



Talk to the characters to find out what they're looking for. The fishnet can be found lying around the town somewhere.

VERDICT:

A game that's simple and easy, both in terms of design and gameplay but one that shows plenty of promise from its young author.

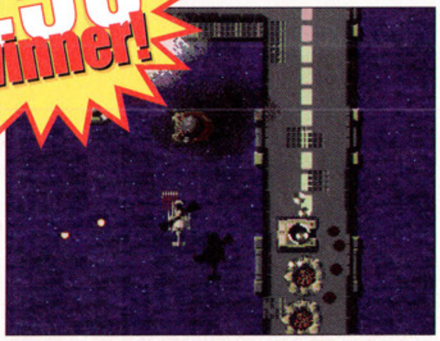


Swap one of your Microcoins for this computer, take the computer to someone else and get a raygun, take the raygun and so on.

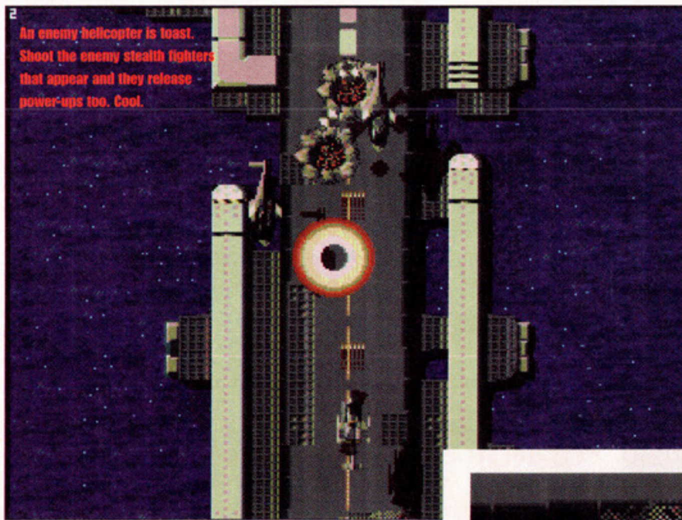


£50 winner!

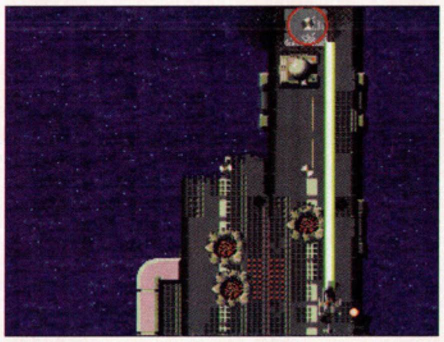
GAME: Death Angel AUTHOR: Robert Glavas LANGUAGE: Unknown

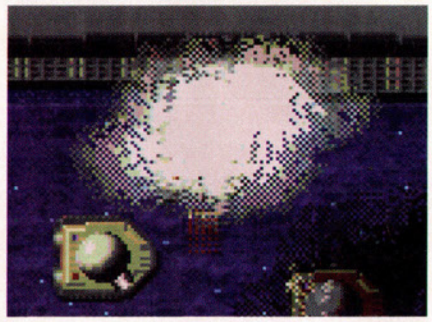


The helicopter lets rip at some small boats, having just destroyed all the tanks on the bridge. Death Angel's very professional indeed.



An enemy helicopter is toast. Shoot the enemy stealth fighters that appear and they release power-ups too. Cool.





This month's very worthy winner is a newcomer to Reader Games and it's someone who should have been sending stuff in a long time ago if the quality of this 1995 game is anything to go by.

It's a vertically scrolling shoot-em-up in which you pilot a helicopter through several stages of mayhem. Enemies come at you from the air, they come at you from the ground and they come at you from the sea. This is just like playing something like *Scramble Spirits* or any one of a dozen vertically scrolling shoot-em-ups that were around in the mid eighties.

It's extremely well paced, the action's manic but not so manic that the player doesn't have a chance to survive. There are power-ups to collect, extra lives to find and loads of points to score. You can take a couple of hits before you die (a very good thing) and the quality of the graphics is superb – big, cartoony and right out of the arcades (well, the arcades of a few years ago). And to top it all, there's a two-player mode so you and a mate can shoot things up together. Very nice indeed, especially as it's simultaneous two-player action.

This really is a cracking game – and would definitely have been good enough to be marketed as a commercial release a few years ago. Now that it's on the *AFCD* all you lucky CD owners will be able to play it too! Please let's see some more of your efforts soon Robert. Hopefully the £50 prize will give you some incentive to keep up the good work and carry on coding.

VERDICT:

A great looking, action-packed joy of a game that you'll be playing for ages. Not original but extremely polished and well designed. A credit to its author.

GAME: Jungle Escape AUTHOR: David Boaz LANGUAGE: Amos



Go back 15 years in Jungle Escape as you search for hours for the right keyword. Frustrating but actually a bit of a laugh for a while.



And all the clues are in the questions. Sort of. A new path is just about to be uncovered which should make it easier to escape the jungle.

Here's a game we haven't seen the likes of since the early days of computing – a text adventure. Yes! Re-live those glorious days of spending hour upon hour trying to get the right keyword to progress on to the next screen! Type 'pick up axe' over and over again while the computer's waiting for the words 'get axe'! Oh the joys.

And unfortunately *Jungle Escape* hasn't got a very advanced parser so you will indeed have to look for keywords to make any progress – not too difficult if you've played this kind of game in the past, but it must be a nightmare for anyone who's new to this kind of rusty adventuring.

As you might expect, the object of the game is to get out of the jungle that you've just crash-landed into. Pick up objects you find along the way as you travel south, east, north and west through the jungle (I can see exits leading: North, East and West – oh it's all so gloriously nostalgic) and try to avoid the sudden death scenarios that you're inevitably going to stumble into.

To be fair, at least David has tried to make it semi-logical. You'll come to somewhere and be told that the place is covered in undergrowth and the only exit is the way you came in. Use the axe on the undergrowth and a new path is revealed – it's that kind of game.

And at least it's got the odd spot of animation (the graphics are not high quality, but they're a lot better than we're used to here at Reader Games). This will actually have you at the keyboard for some time because no matter how much things have moved on, it's always nice to remind yourself of why any progress took place at all.



Jambo, yesterday. Or is Jambo dead now?

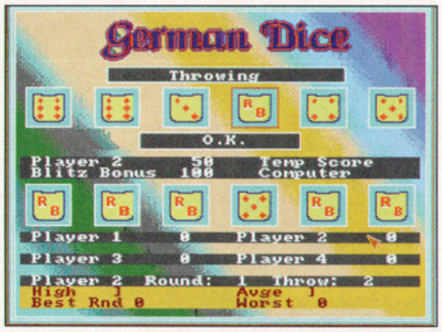
VERDICT:

A not-terribly-great looking text adventure that's actually fun to play (in a very frustrating, retro kinda way) for a while. A worthy addition to this month's collection of games at least.

GAME: GERMAN DICE AUTHOR: R. Buckley LANGUAGE: Amos Pro



Mr Buckley used to live around Frankfurt back in the '70s and became a fan of this dice game played in bars around that area. The idea's to become the first player to score 10,000 points by rolling six dice. Roll ones and fives and you score points. Save these dice and they count as your temporary score. Continue in this fashion until you think you can get away with just one more throw and then stop. This is then your score. However, push it too far and find that you haven't scored on your next throw and you lose your temp score. There are other elements to the game, such as blitz bonuses (where you manage to save all the dice) and treble chances (throwing three dice of the same number earns a bonus) but essentially it's very simple.



Now then, that five's going to score some points – keep it.

It's also been well done. There's nothing flash about this game – it looks basic, it has basic background music but it all works and it's been finely tuned to make it simple and fun to play. Up to four players can compete (including computer players) and apart from a graphic overhaul, there's little more work needed here. Certainly the controls and the interface work as smoothly as you could want and with games like this, that's the most important thing.



The graphics are more functional than cosmetic. Don't expect too much.



The key to this is knowing when to quit. You don't want to lose your score.

VERDICT:

Simple, efficient and reasonable fun to play for a while. The sort of game you could boot up when you and your mates have half an hour to kill (a bit of a pain having to drag the Amiga to the pub though).

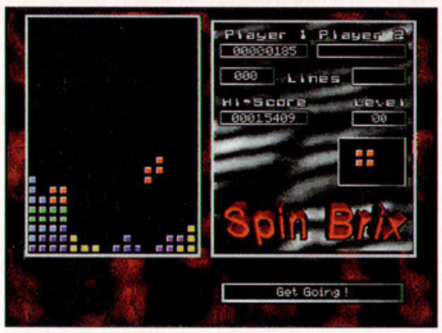
GAME: Spin Brix AUTHOR: Z Ward LANGUAGE: Amos



The last time we heard from Z Ward was with his game *Bong Brix* – a *Breakout* clone that was simply too fast and too difficult (*AF94*). Now he's come back with something else (having admitted that yes, *Bong Brix* was indeed too fast). This is a *Tetris* clone – actually there are two here. The first is a straight *Tetris* game – drop the bricks to make lines to make 'em disappear. The second, *Spin Brix* is a *Tetris* clone with a couple of new shaped bricks thrown in. And actually, the new shapes are pretty groovy. They change the gameplay quite dramatically but can still be worked in and still maintain the *Tetris* feel.

Both clones have a two-player mode which is slightly bizarre in that you're competing with each other to complete a set number of lines and yet you're both controlling bricks on the same screen. Not simultaneously but alternately. You orientate and position a block and then your mate has a go. This leads to very odd games because you don't want to leave gaps where your opponent can simply slot a brick in and claim the lines.

It's got good graphics, it's got good sound (though you might get slightly bored with the same sample after a while) and it plays fine. A good, solid *Tetris* clone with a twist.



Oooh! Drop it to the left! No, to the right! No, the left! Etc.



And none of the bricks spin.



A new Tetris brick descends.

VERDICT:

A good, solid Tetris clone with a twist. Erm, didn't I just say that? Thought so. Oh yes, the secret bonus game is very dull. Don't waste too much time trying to find it. Clue: how many lines? Bong.

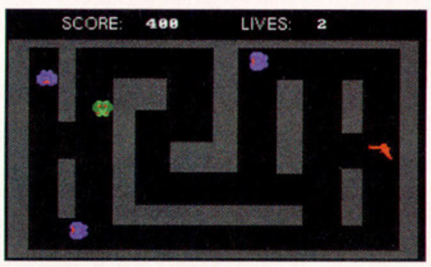
GAME: Cyborg Crisis AUTHOR: Robert Benjamin LANGUAGE: Mysterious

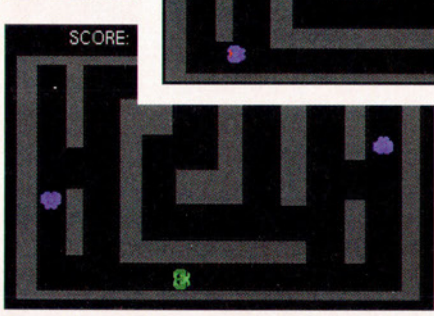


The American that needs no introduction is back and after a couple of slightly ropey games he's come up with another goodie. It's not splendid but provides a single player with a slice of fun that should keep him happy for a half hour or so.

As is Robert's, now familiar, trademark, the game's terribly simple and basic. The player controls a small green cyborg trapped in a simple maze (to start with) being pursued by a bunch of blue cyborgs. Our little chap's armed with a three-shot pistol and he must shoot the blue cyborgs for points. Every time he shoots his last round he has to leg it to wherever the new pistol icon appears. And every time one of the blue cyborgs is killed a small white dot shows you where the next cyborg's going to regenerate from.

And that's your lot. There are a couple of points about the game I'm not convinced of – the corridors that make up the maze are slightly bigger than the cyborgs and if you're on one side of the corridor and the enemy's on the other, then you can quite easily miss them, by just a pixel at times. And, any contact with the enemy cyborgs means you die a horrible death. Lose your three lives and it's game over. Robert's not going to win any prizes with this but again it demonstrates that he knows that you don't have to tart things up with flashy graphics to make a game playable and fun.





Not a cracking-looking game but it's actually fun to play for a few minutes. It won't last you more than an hour though.

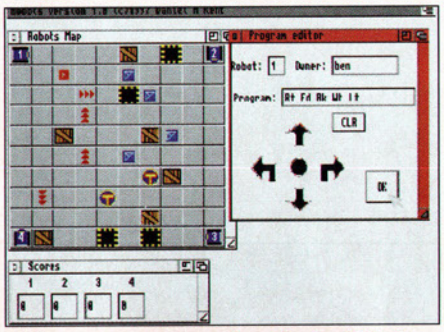
VERDICT:

Strictly short-term entertainment but entertainment nonetheless. One day, I'm sure Robert's going to spend more than just a couple of hours knocking something up and then we'll all be in for a real treat!

GAME: Robots of the Arena AUTHOR: Daniel Kent LANGUAGE: Blitz



Here's a cracking game from another first-timer. It's not entirely original but it's a great deal of fun. Up to four players compete to score points by pushing crystals around an arena in order to get them to drop into pits.



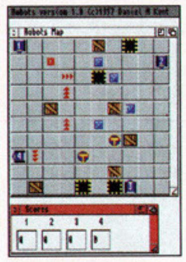
Each player issues his robot some orders and then they all sit back and watch them attempt to carry them out. Smart.

But here's the twist. You don't actually control your robot. Each player takes it in turn to program a sequence of moves which, when everyone's done, the robots then attempt to execute. The instructions are simple enough: turn right, turn left, go forward and wait. There are blocks that can be pushed around (ideally right in front of another player's robot to prevent them being able to carry out their instructions) and teleports and conveyor belts to take advantage of too.

The clever thing about *Robots of the Arena* is that Daniel's realised that sometimes things are going to go pear-shaped for your robot and so the list of instructions is relatively small – you don't have to wait an age before you get the chance to re-program your robot back onto the right track.

The default arena provides as much fun as you like but you can fine-tune things to your taste before each bout begins which is a real bonus (making sure you include at least a pit and a crystal or nobody will be able to score any points at all).

It's not going to please anyone who likes immediacy in their games but it's going to please everyone who likes to plan things and react to situations as they happen. And I'm like that, so I think this is great. Have a go yourself and if you like it, vote for it yourself on the form provided at the end of Reader Games. Nice one Daniel.



And here the robots are carrying out their orders – not always successfully.

VERDICT:

A thought-provoking game that's great fun to play when four of you are competing with each other for points. The graphics are basic but functional and they're about the only thing I'd recommend Daniel spends some more time on.

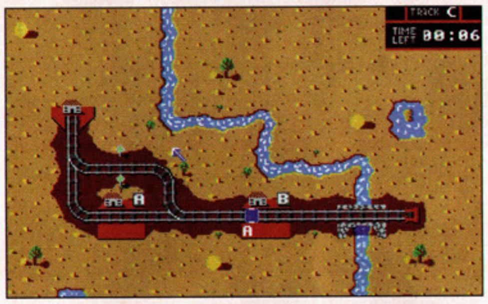
GAME: Trains AUTHOR: Barry Driver LANGUAGE: Blitz Basic 2

Just missing out on the top prize this month is this rather excellent puzzle game set around moving passengers from station to station using little trains. B passengers need to get to station B and A passengers need to get to station A, so you've got to work out the quickest way to get the passengers on board and to their respective stations.

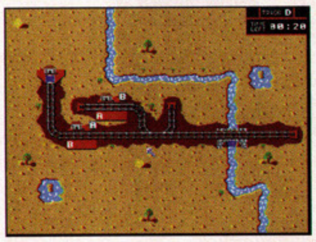
This usually involves switching signals, changing directions and sending your train off into little sidings and stuff. It's cracking fun and it's very well paced. New features are introduced gradually and it doesn't take long to figure out where you went wrong. The time limit for each puzzle is extremely tight too so once you've figured out what you've got to do you then have to do it faultlessly or you'll fail.

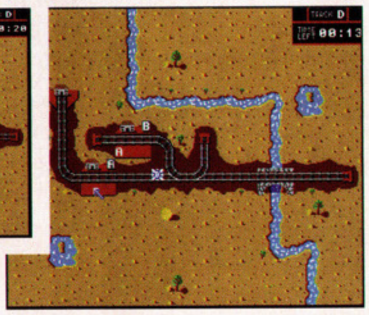
You'll be amazed the number of times you forget something very minor (like remembering to switch the tracks back onto the mainline once you've sent your train down a siding, or it will crash when you try to send it back).

The graphics are basic and the sound's terrible but the gameplay's just great. If we hadn't had the rather wonderful *Death Angel* this month then Barry would have walked off with the prize. *Trains* is great fun because it's slightly different to the average puzzle game and that time limit will stretch you!



Pick up the passengers and get them back to station A in six seconds. Gulp!





Once you've figured out what you've got to do, you must then execute the correct moves in double-quick time to pull it off.

VERDICT:

A rather splendid little puzzle game that's great fun and a fine end to this month's Reader Games. Keep 'em all coming folks.

MORE OF THE SAME PLEASE!

When you're sending in your submissions make sure you also give us:

1. an address where you can be contacted
2. details of the language used to create the game
3. a recent photo of yourself.

The address to send your stuff into is:
Reader Games • Amiga Format
30 Monmouth St. • Bath • BA1 2BW

VOTE FOR YOUR FAVOURITE READER GAME

Every month we're asking you to choose your favourite game. Just have a play on the CD and then fill out this coupon including the name of the game and the name of the author. At Christmas we'll count all the votes and announce the winner!

Choice 1: ....

Choice 2: ....

Choice 3: ....

Name: ....

Address: ....

....

Tel Number: ....

READER WARRANT

Everything included on the *AF*CD must have a reader warrant with it. Just cut it out off this page, sign it and send it in to us with your game and a recent photograph of yourself. A last reminder: if you don't include this warrant we simply won't be able to put your game on the CD – and that means you won't be able to have it judged by other readers.

In respect of all material which forms my reader contribution to Future Publishing's *Amiga Format*, I hereby warrant that:-

1. the material is original and does not infringe any other material or rights;
2. the material does not contain any material which is defamatory, obscene or indecent and is exempt from classification under the Video Recordings Act 1984;
3. that there are no legal claims against the material provided;
4. that I have full power and authority to provide this material to Future Publishing.

Signature: ....

GameBusters

A friend in need is a friend indeed. And an even better friend is one who offers hints, tips and cheats to Amiga games old and new. Andy Smith is one such friend, and he's just come round to chat. Hurrah!

The Big Red Adventure



Part 2

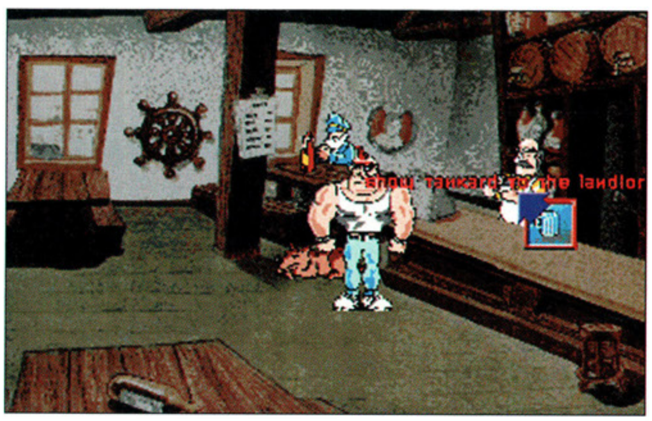


Last month we showed you how to complete level one of this fine adventure game (*AF98* 86%) and the first alternative way to finish level two. This month we'll show you how to complete level two in a different way, before moving onto levels three and four. Onwards…

Part 2 Method 2

Go inside the Inn and pick up the jug. Give it to the landlord to receive some water. Examine the wine list and talk to the landlord about one of the wines. Buy the Goldengrape and when he disappears take all of the items from the walls.

Bloke in a pub. Last Saturday. And he spilled my pint. I didn't mind though.





The sword swallowing chap. Pinch his swords from the front of his shop. Oh, you have already.

Now head for the drugstore opposite the circus in Circus Square. Purchase a can of beans from the shelves and eat them. This makes Dino feel very lively (hey! Full of beans! Geddit?) so go into the circus and enter the weightlifting contest (as in method one) and win the 100 Roubledollars. Go back to the drugstore and buy a casket of rum.

Now go to Madam Zelda's cabin (on Circus Square) and talk to her about your future. She'll tell you she sees a land scorched by the sun, a man on a horse and hidden treasure. She'll tell you your life depends on two strangers called Alex and Kos.

Zelda now leaves the room so take the opportunity to examine the headache potion and mix all the ingredients together. Give the drunk the headache potion and ask him about his box. It will turn out that it contains sunflower seeds and the drunk's willing to swap the box for a casket of rum. Swap the rum for the box and open it. Take the seeds to the parrot in Zelda's cabin and take the parrot along with you.

Go to the Inn and reunite the parrot with the old sea dog, then go and talk to the sword swallower. When he swallows his sword, pick up another from the front of the stall. Go to the crossroads and head to the lake. Pick up all the items from the snowman, use the sword on the ice.

Combine the broom and pendant to catch a fish from the ice hole. Take it back to the wharf and show it to the cat. Take the cat to the



Dino gets full of beans and displays his love for the world. The shopkeeper was a little disturbed.

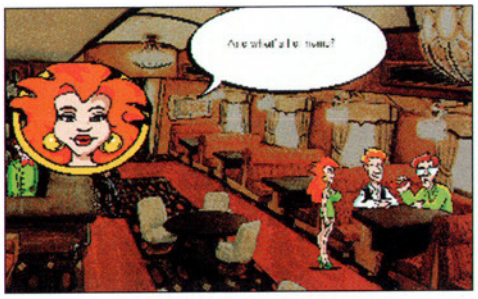


Dino's made to wander the snowy wastes in just a singlet. Still, it's a Jean Paul singlet, so that's okay.



Our Donna's about to board the Orient Express and embark on another adventure. Little does she know what's in store for her. And her sugar daddy's going to be no help.











Inn and show it to the dog. Grab another sword and combine the two swords and the box to make a sledge.

Head back to the lake and sledge across it to reach Zerograd. You will eventually arrive at the train station in the town centre. Take the poster on the wall then go to the luggage office and show the poster to the ape who'll throw a banana at you. Pick it up and talk to Miss Molatova's bodyguard on the platform.

The bodyguard will be rude so eat the banana and drop the skin on the floor before going to talk to Miss Molatova. The bodyguard will try to hit you but slips on the skin, breaking his leg, leaving a vacancy you can step into by talking to Miss Molatova. She'll ask you to escort her to Venice and you'll be able to board the train.

Part 3

At the Bolshoi

The third character you become is Donna Fatale, the Russian Bolshoi star. After her performance she'll be in her dressing room when there's a knock at the door. In comes a man who introduces himself as RJ, the richest landowner in Georgia. He will tell Donna he is passing through on his way to Venice on the Orient Express and that he had to see her performance. RJ asks Donna to go to Venice with him and she accepts.

On the Orient Express

Donna and RJ arrive at the station with a large box which RJ says is a souvenir from the Kremlin that he paid one million Roubledollars for. Now Doug, Dino and Donna are all aboard the Orient Express.

RJ and Donna are in a huge compartment with a large four-poster bed but Donna leaves the room and heads for the bar. When she arrives at the bar, go up to Alex and Kos and talk to them.They turn out to be old friends of Donna who, we discover, starred in a few risque films for the lads before she found fame. The chaps proceed to blackmail her unless she helps them in their latest venture to steal the plans for a new microprocessor. The woman with these plans is none other than Miss Molatova who's being guarded by Dino.

Donna agrees to steal the microfilm containing the plans in return for the pictures of her the boys have. Leave the bar and head for room number three.

Doug's Room

Doug and Donna have also met before. Donna enlists Doug's help to get the microfilm and gives him a smacking big kiss in return.

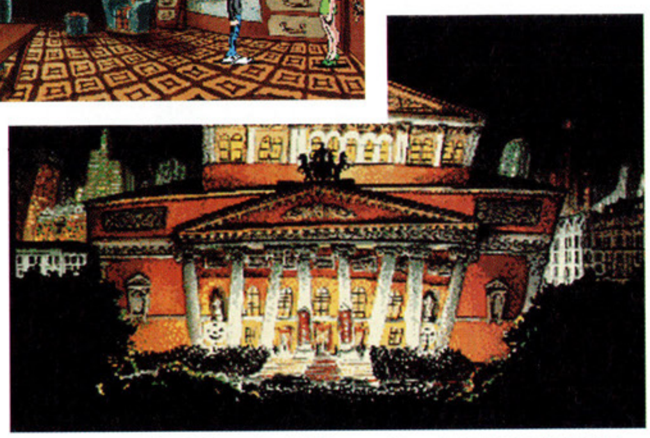
You're now in control of Doug so head for room 10 and you'll find that he knows Dino from before too. Doug finds out that Dino's with Miss Molatova and, knowing how thick he is, Doug tells him he needs his help organising a surprise party for Miss Molatova and that he needs a photo of her for the present. He says there must be an old negative lying around somewhere in the compartment.

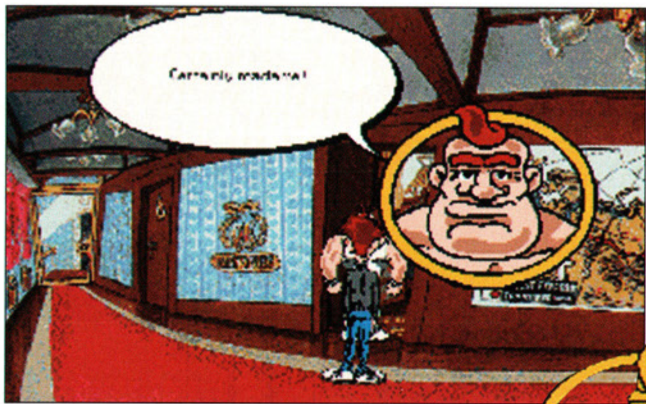




As Dino, go in search of the microfilm after going to the bar and buying Miss Molatova a coffee. He manages to spill coffee all over her coat. When she goes to the bathroom, leave the room and instantly walk back in which gives her time to go to the bathroom and back to the bar, so that you can look for the microfilm. Enter the bathroom and pick up the ring, and go the bedroom and pick up the bottle. Give both items to Doug, who's waiting outside. Now, as Doug, return to your room and meet Donna. Give her the two items. Now, as Donna, take a closer look at the ring and find the microfilm and then examine the bottle and find that it contains sleeping pills. Leave the room and go to the bar and give the microfilm to Alex and Kos in return for the naughty picture and negatives. Now go back to see Doug. Take control of Doug and head to the bar where you see a man at the bar who you recognise as the thief who took the crown from you. Go back and tell Donna about the chap. Donna agrees to try and sweet talk the thief into letting her into his room so she can search for the missing crown. Take Donna to the bar and talk to the thief, letting Donna's natural aura take control of the situation. She will convince the thief, after hours of hard negotiating, to take her back to his compartment to look at his etchings. When she gets to his room she puts sleeping pills in his champagne and he falls fast asleep.

Once he's out of it, open the wardrobe and examine the shirt to find the number 653 written on the cuff. Pick up the blanket and go and tell Doug what you found, giving him the blanket. Become Doug and go down


The Bolshoi. Sort of. Our third hero (heroine) Donna performs here and wins the heart of rich landowner RJ. Of course, the money RJ has doesn't influence our Donna at all.



Our Doug meets up with our Dino on board the Orient Express. Dino's playing bodyguard here.



the corridor and talk to the ticket inspector who wants a cigarette. Go to the bar and ask Alex and Kos for one, they'll tell you that they have special cigars for sale, at 100 Roubledollars each.

Go back to see Donna and ask her for 100 Roubledollards and she'll tell you she'll ask RJ for it. As Doug, go to your compartment (number six). Donna will actually ask RJ for 10,000 Roubledollars, which she'll get. Now head back to Doug's room and become Doug again. Head for the bar, buy a cigar and take it to the ticket inspector. He'll ask for a light so Doug will have to go back to the bar to get a light from the soccer fan sitting beyond Alex and Kos at the back of the carriage. Now go back through the train to the ticket inspector and light his cigar. This is going to affect the guard quite severely, so take his keys.

Make your way back to the bar and go through the back door of the train, past the soccer fan, and climb

> Zelda gives you a list of **ingredients** she needs for a **fresh batch** of potions...

Part 4

onto the train roof. Walk right along to the storage car and select the sheet. You can now let yourself down using the sheet and let yourself in. Once inside, select the open icon and use the keys and the number



Through the door and up onto the roof to get to the storage car that holds the crown. Go on Doug.



The end of level three and Doug's just about to recover the Tsar's Crown he lost in part one.

combination to open the trunk and take the crown.



The Search For Donna

Just when you thought it was all over, the train gets held-up by a group of Russian radicals working for Doctor Virago. They've stopped the train to steal the coffin RJ bought from the Kremlin.

They are also under orders from the good Doctor, to kidnap a young virgin. Donna's taken hostage. Now the boys, Doug and Dino, must rescue the fair maiden.

First, find the path to the bridge and start to give chase. After tramping for many miles you'll find the bridge. Follow this bridge over to the village after getting Dino and Doug to clear the way by throwing the boulders into the water. Cross the river and head into the village – a gloomy place where time seems to have stood still. The villagers appear wary of our strange heroes.

Walk through town and take control of Doug. Pick up the lantern and the icicles hanging from the small blue building, spotting that Zelda's cabin is in this village. Go to her cabin and talk to her. She tells you Donna is in mortal danger so if you want to save her you must follow her instructions.

She tells you the only way to get into the house is by magic but she, Zelda, has been robbed of her potions. She gives you a list of



Dino's muscles come in handy when there are boulders that need shifting. Doug just watches.

ingredients she needs for a fresh batch of potions to help you rescue Donna. Her list details Dead Man's Bones, Bat's Wings, Lion's Tooth, Sunflower Seeds.

Start off by heading into the graveyard next door and pick up the bottle and the bone. Combine the lantern and the bottle to create a superior whisky and give it to the gravedigger. Now talk to him about Doctor Virago and he will tell you of a madman who lives in a villa in the woods. They say the madman can raise the dead, which sounds just like our chap Doctor Virago!

Return to the village square and walk to the right of the screen until you come to a wooden shack with a drainpipe on the side. Get Dino to pick up the drainpipe and then change back to Doug. Head into the little square next to the shack and get the tarpaulin from the pile of wood. Change to Dino again and select your music box and play it to the old man sitting to the side.

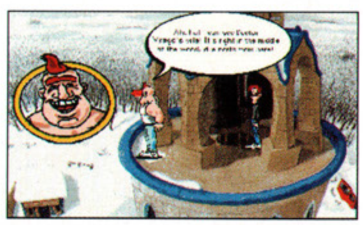
The old man will say the music reminds him of his childhood and he'll fall asleep. Once he's asleep, take the spectacles from his face and turn your attention to the tower next to him. Combine the glasses and the drainpipe to make a pair of binoculars, then select the icicles and use them on the church tower to make a ladder. Now pick up the stone at the base of the tower and climb the tower. At the belfry select the stone and use it on the bell. This will create a loud tone, waking the bats inside. Capture a bat by getting Dino to use the tarpaulin as a net.

While you're up the tower, tell Dino to select the binoculars. He will then be able to see the Doctor in the middle of the woods, north of the village. Climb down and head out into the woods towards the villa until you come across a squirrel hole where you'll find some sunflower seeds. Once you've found the villa, pick up the lion's tooth (you have to be pixel perfect when locating it on the left hand lion's mouth) and head back to give Zelda the goodies.

When you get there, give her the ingredients in the following order: sunflower seeds, bat, lion's tooth and bones. Zelda exits and makes up the potion returning to tell you not to drink it until you are at the villa



A ridiculous plot twist as icicles are used to make spikes to enable our heros to climb the tower.



And when they get to the top of the tower they can see the evil Doctor Virago's villa in the woods.



At the gates of the Doctor's villa. Finding the tooth from the lion on the left can be fiddly...

gates. Head back to the villa and when you get to the gates, make Doug drink the potion, turning him into a bat. When you're inside the villa, take control of Donna again.

Inside the villa

Donna's meeting her kidnapper, Doctor Virago. The Doc's got his eye on Donna as the perfect specimen for his great experiment (oo-er!). Talk to the Doc and he will get upset and slam the door behind him. Now it's time for Donna to help herself in preparation for Doug's arrival. Pick up the perfume bottle and open the pillow so the stuffing comes out. Now pick up one of the feathers and look at the ceiling. You will notice there's a trapdoor above the bed. Climb through it and find yourself in a dusty attic room with lots of unusual objects scattered about.

Pick up the record, magpie and bottle of chloroform. Combine the chloroform and perfume bottle and go back down into the previous room. Select the perfume bottle and use it on the guard outside the door.

Walk down the stairs and enter the room containing the bowl of fruit, located under the stairs. Try to pick up the bust on the right but don't be surprised when Donna drops it. Pick up one of the broken pieces to find that it's made of plaster. Pick up the bowl of fruit and the vase. Enter the lounge and go into the Doctor's study (located over the other side of the passage). Go straight over to the skeleton and look into it's eye to discover a key. Take the key.

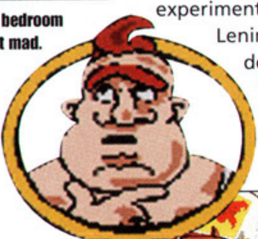
Look inside the big clock to the left and pick up the iron filings. Combine the record and the filings to break the record into little bits. Select the key and use it to open the cabinet on the right side of the study. Pick up the jar of bat wings and take the books on the table and



Our heroine up in the attic. Collect what you need then watch her bum as she climbs back down.



Here we see Donna doing a spot of bedroom gymnastics. Either that or she's just mad.



shelves. Read them and pick up the pen on the desk. One of the books will tell you how to create electrostatic and the other's the Doctor's diary with an entry about the Book of the Dead. There are also some strange spells written down and the description of an experiment that brings the dead back to life.

Go to the desk beside the ashtray made out of a skull. Put the bat wings, fruit and feather in it. Something forms in the ashtray. Stir the mixture with the fountain pen.



The Doctor's study. Donna's about to accidentally create a 'coming back to life' potion.

Head back to the lounge and then back to the room where you were captive. Go into the attic and use the plaster on the floor to make a circle where Intel Outside appears.

Now combine the fountain pen with the bird and the its eye colour changes. Put the bird inside the circle and use the broken record on the gramophone. A strange power comes from the gramophone and brings the bird back to life.

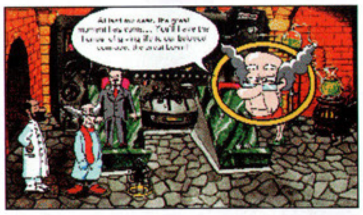
Go back down to your room and the magpie follows you. Make your way to the Doctor's bedroom next door. Talk to the bird and it flies into the bedroom, past the sleeping Doctor to get a set of keys. Return to your room and use the keys on the window to open it. Throw out the plant pot (this lands on the guard's head and knocks him out). Donna can now walk out of the villa (only to be captured by a second guard – doh!).

Now we're with the Doctor in the basement talking to his assistant, Igor. He will ask Igor to get some bats wings so he goes off and captures a bat (it's our Doug really). Meanwhile, in the basement, the Doc's about to carry out his fiendish experiment. The lifeless body of Lenin is chained to a strange device. The Doc now wants Donna to strip and get in place. The Doc then reaches for



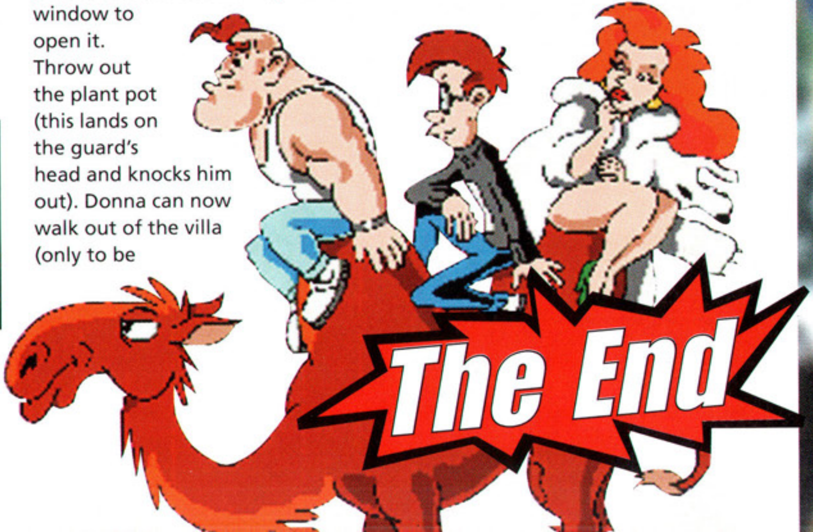
The magpie's the only thing that can sneak past the sleeping Doctor and steal his keys.

the bat that Igor captured. As he does so, the bat turns into Doug who then lunges for the machine to save Donna and manages to turn it on. Lenin is reborn! But it's not so bad because he immediately agrees to become the new host of The Russian Doll Show on KGB TV. And that, folks is the end of the game! AF



The Doctor about to take the life force from Donna and give it to Lenin.





Helping Hands

INDIANA JONES AND THE FATE OF ATLANTIS

I'm stuck in the ruins. I've put the sunstone on the floor and I've found the Transit, but I don't know what to do next and Sophia's not a lot of help.

Azir Mahmood
Oldham

Easy Azir. Examine all the rooms until you find a mural and take note: the bull's horns depicted are referring to the horns in the centre of the ruins which you will be using in conjunction with the surveyor's instrument to work out where something's buried.

Push all the stones (on the small scale map) to unearth two statues, and set the surveyor's transit on top of either statue, to the outside edge of the relevant horn (as shown in the mural) in the centre of the ruins. Use the ship's rib where the two lines of sight intersect and pick up the stone. Exit the ruins, walk to the stone pedestal and put the sun and moonstones on it. Set the contraption according to the dialogue and walk through the secret door. You take it from here, Azir.

ALIEN BREED 3D

I've been stuck on level 12 of Alien Breed 3D (the first one) for ages and would be really grateful if you could print the codes for levels 13 upwards. Thanks.

Nick Rowe
Halesowen

Here you go Nick:

Level 13	PLKOKEKLFEIJNFLJ
Level 14	OOKOKMKLFEIJNBKJ
Level 15	LKKOKGKLFEIJNBKJ
Level 16	OPKOKOKLFEIJNBKJ

SIMON THE SORCEROR

I'm stuck on Simon the Sorceror. I'm in the dragon's cave and have knocked him out but I can't get the gold coins. Can you help?

Tom Unsworth
Chard



Andy Smith was weary from the ceaseless requests for tips on Simon the Sorceror.

Simple Tom. Use the hook, with the boulder above, to go up and use the magnet-on-a-rope with the hole three times to get a gem. Go back to the dodgy geezer and tell him that you'll exchange the gem for 20 gold pieces.

LEND A HAND

If you're having trouble with a particular game or have a solution to a question in the magazine, don't keep it to yourself, write it down or send it in on a disk and we'll do our best to print it.
HELPING HANDS • Amiga Format
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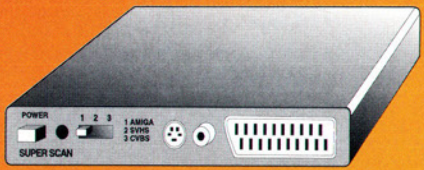
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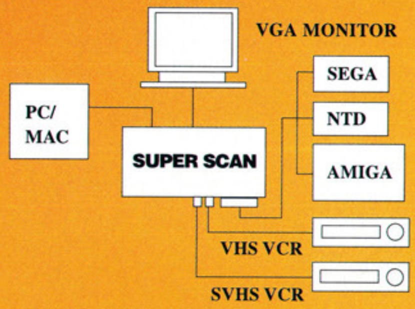
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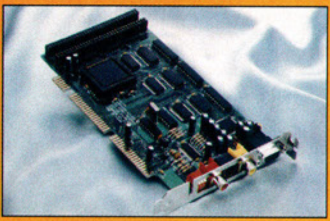
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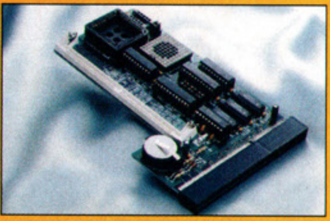
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Dave Cusick wades his way through another mound of jiffy bags to bring you another hotch-potch of the top notch...

CHARLEY CAT QUICKIE #4

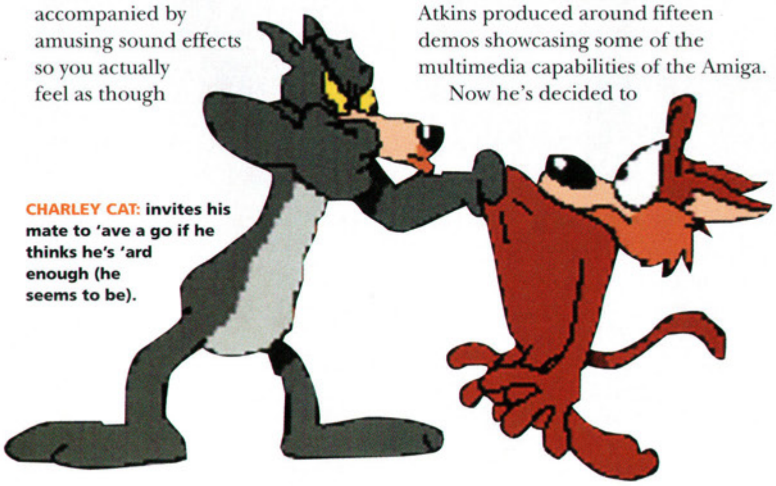
By:	Anthony Whitaker
Ware:	Free
PD Library:	Roberta Smith DTP
No of disks:	Two
Price:	£1.50 + 50p P&P

In the past I've been extremely impressed by the *Charley Cat* animation series so this review was eagerly awaited. However I received only a "Low memory" message from the Movieplayer program which all the *CC* cartoons rely on. "Strange," thought I, since while hardly being the most powerful Amiga around, my expanded A1200 system has the necessary 2Mb of free memory to run the program with no problem.

The only way I could avoid the nightmare of several disk swaps during loading was to create a boot disk to get the cartoon to run from my hard disk. Fortunately it worked and my efforts were eventually rewarded as I watched this typically polished little animation.

The plot isn't incredibly complex, which isn't surprising given that the *Quickie* cartoons generally only last for 30 or 40 seconds each. I won't spoil things for you by giving away the details here – suffice to say that Charley learns the hard way that stealing doesn't pay. As usual his animated antics are accompanied by amusing sound effects so you actually feel as though you're watching a real cartoon.

Charley Cat himself is apparently five years old now. In those five years the Amiga world has changed a great deal, but hopefully, as the next generation of Power Amigas start filtering through, we'll see increasingly impressive animations starting to appear, featuring him and other computer cartoon stars.



CHARLEY CAT: invites his mate to 'ave a go if he thinks he's 'ard enough (he seems to be).





CHARLEY CAT: Not impressed with his chick's efforts in the kitchen...

FACULTY X – SPECIAL EDITIONS VOL 1

By:	Brazzle Atkins
Ware:	Free
PD Library:	various – eg Saddletramps, Freestyle
No of disks:	Nine
Price:	varies according to library

When Brazzle Atkins started producing demos for the Amiga 500 way back in 1989, Commodore's machine was fast growing in popularity. It was still a fair distance behind the Atari ST in terms of users, but it was soon to catch up and comfortably overtake Sam Tramiel's less powerful computer. The AGA chipset was around two years away from production, a 512k upgrade for your A500 would have set you back almost £50, and Stock Aitken Waterman songs still consistently made the Top Ten.

Between 1989 and 1991 Brazzle Atkins produced around fifteen demos showcasing some of the multimedia capabilities of the Amiga.

Now he's decided to dust off some of those ancient offerings, play around with them a bit and make them run on AGA machines. The fruits of his labour are now available through several PD libraries, but he rather generously sent us here at *AF* a stylishly-packaged Special Edition boxed set, containing three full-blown demos and four "Digi Movie" animations.

The first demo, *The Reincarnation Of Sgt Pepper*, dates from April 1991 and comes on two floppies. It is, of course, a Beatles-inspired psychedelia-fest, featuring a selection of weird Fab Four-ish

Continued overleaf ➡

FACULTY X: Showcasing the Amiga's multimedia skills.

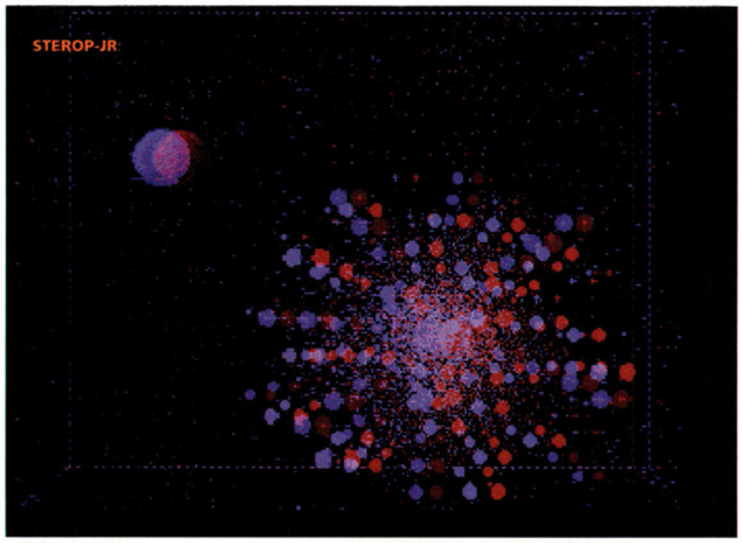


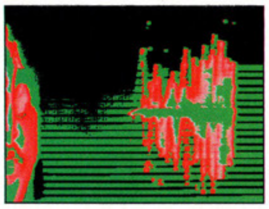


FACULTY X: This silent tribute, to that duo who inspired all future fat & skinny double acts, was made up of short, vidi-amiga digitised clips.



FACULTY X: A psychedelic interactive experience no less...





FACULTY X: Morphing and melting colours the Amiga way in trippy pink and green...

images and some rainbow-coloured cycling effects. The whole thing is silent, which is disappointing, with the idea presumably being that you can pop on your Pepper CD while you watch the mesmeric movements on the screen... but I can't help feeling that some sampled sound effects wouldn't have gone astray even if, for copyright reasons, they weren't Beatles-related.

Chaos Rock and *Erpland* originally appeared in 1990 and are supplied here with *Relokick 1.4* to make them work on A1200/A4000 systems. Unfortunately, while *Relokick* worked perfectly, I was unable to get the demos to load, with a nasty Workbench 1.3 requestor informing me of a software error somewhere. Perhaps I should have been a bug tester since I have an uncanny way of making programs crash...

The five Digi Movies disks contain four demos. The first of these, *The Laurel And Hardy Show*, won praise in the Amiga press during late 1989, although by modern standards it isn't startlingly good. After a brief rendition of the infamous theme tune, you're treated to a series of short Vidi-Amiga digitised clips. Although these are pretty jerky and this section of the demo is silent, there are loads of clips considering the whole demo fits on one floppy. It's easy to see why people got excited about it when it first appeared when you consider that, even eight years on, decent FMV can only be seen on expensive, high-spec computers.

The sequel, *Horror Show* (October 1989), is to my mind a more polished affair, with gory snippets of films such as Psycho and Scanners being shown accompanied by meaty horror sound effects. *Monty Python* (April 1991) makes equally good use of both sound and video snippets to bring a typically bizarre Terry Gilliam animation and Terry Jones' infamous Singing Mice sketch to your screen.

A Clockwork Orange (November 1991) originally received a muted response from PD Libraries who were understandably concerned about distributing a disk containing digitised snippets of Stanley Kubrick's highly controversial film. It's more pleasingly presented than the earlier offerings, and although after the opening screen you won't hear a squeak from your speakers, the demo lasts for several minutes and includes quite a lot of digitised film footage. The film itself is scarcely family viewing and neither is the demo, containing clips from some pretty nasty scenes – so this definitely isn't suitable for the younger Amiga users out there.

Despite the fact that from a technical perspective, these demos now appear rather crude, they are worth a look for A1200 owners wanting to relive those halycon 16-bit days, as well as those who simply want to have a look at what the Amiga was capable of at a time when most PCs still ran MS-DOS.

FACULTY X: Looks like something from 'Total Recall'.





FACULTY X: Hmm... an artist's impression of your Amiga.



FACULTY X: On-screen antics from Brazzle Atkins... the man was a dab hand at this picture manipulation lark.

STEREOP-JR

By:	Ernest Ruckle
Ware:	Licence
Available from:	F1 Software
No of disks:	One
Price:	full version £3.99

Remember when "Magic Eye" pictures became very popular a few years ago? Everywhere you went, people had random dot stereogram images framed on their walls and huge "Magic Eye" tomes on their coffee tables. I remember how elated I was when I discovered that once you know the technique, it's really not difficult to see 'into' the pictures – unless of course, you're one of those people who have been proven totally unable to see them.

Anyway, *StereOp-Jr* aims to open up the world of 3D pictures to everyone, including children too young and impatient to sit gazing deep into dotty pictures in search of mysterious dolphins or repeating mathematical patterns. It changes regular IFF images into 3D pictures which can then be viewed using a home-made pair of 3D glasses (or indeed the pair supplied with this disk) which have a blue lens for the right eye and a red lens for the left. It runs on any 1Mb Amiga, although the author suspects compatibility problems with some A1200 accelerator boards, so you if you own such a board you



FACULTY X: Six blokes with flat heads spout a funky rainbow.

PD selection of the month

SCHOOLBOY SIXES V3.1

By: Robbie J Mappin
Ware: Share
Available from: Robbie J Mappin
No of disks: One
Price: demo 50p, full version £2 with returned demo disk

When I was a youngster I wasn't too bad at football. In my primary school days I was team vice-captain, a solid central defender who made up for his aerial deficiencies with his dogged determination and the odd well-timed saving tackle. Unfortunately what limited talent I had was left to fester in my high school days, as we were treated to a gruelling diet of wall-to-wall rugby during the winter months. Any hopes I might have had of playing for a decent team faded rapidly, and I found myself slipping ever lower down the playground football team picking order. Ah, well... such is life. We can't all play for Manchester United.

Thanks to the likes of Robbie J Mappin though, we can at least all attempt to emulate Alex Ferguson... or at least Mr Lewis, the coach of my old Cub pack football team. In *Schoolboy Sixes*, the sequel to the author's enjoyable *Premier Sixes* game, which was reviewed in these pages some months ago, you must guide a team of under-15 football star wannabes to the local league title. While this new game is not entirely dissimilar to *Premier Sixes*, it's clear that considerable time and effort have been put into improving both the user interface and the gameplay itself.

You take on the role of the manager of Brentwood, who play in the Bamford County under-15, six-a-side league each Sunday morning. You will have to face all the usual trials and tribulations of under-15 managerial life, such as players who have to miss training for piano lessons, fathers who are irate that their talented youngster hasn't been picked and mothers who won't let their boys play in inclement weather.

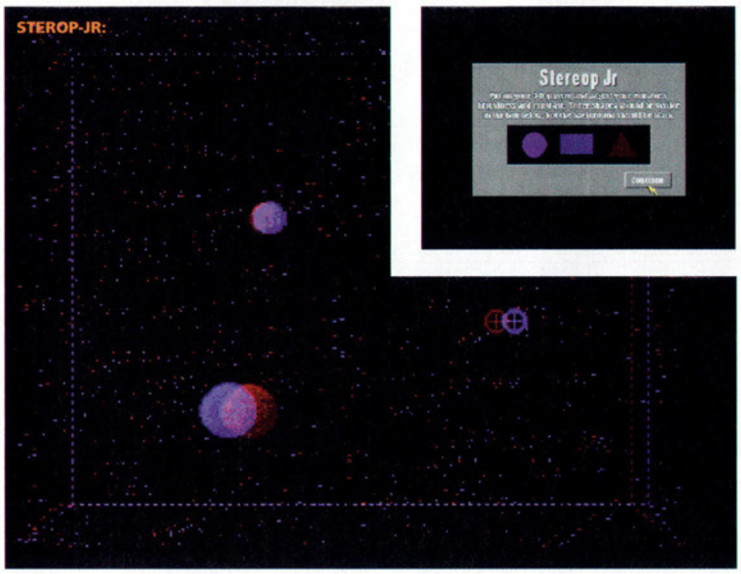
With the help of your talent scout, Bazza, you must decide which of your players are sufficiently talented to remain in the squad and which should be replaced by talented newcomers. When Sunday morning comes, matches are presented in the traditional *Championship Manager*-style format, with a clock counting the minutes away at the top of the screen and brief snippets of action being reported below.

A schoolboy football game is a nice idea, and one which a friend and I planned on



SCHOOLBOY SIXES V3.1: Alex couldn't be here, so I've flown over from Australia for the photoshoot. Is this alright? What do you mean "More Sex"?

developing into a full-scale *Kick Off 2* challenger many years ago – complete with popular variants on the schoolboy football theme such as "Three and In" and "Wembley Doubles", and with jumpers for goalposts and star players who had to leave halfway through the game to go home for their tea. Having never got that idea off the ground it's nice to see that someone else has not only seen the potential for an entertaining schoolboy football game, but has managed to realise that potential so effectively. With so many neat twists to help add to the long-term interest, this is a hugely satisfying managerial game which comes highly recommended.



STEROP-JR:

might have to disable it prior to running StereOp. That said, my often- sensitive A1200 '030 system didn't seem to have any problems.

Once you've loaded up the program and donned the 3D glasses things start to look a little strange. The effect itself isn't quite as impressive as that obtained at the 3D cinemas to be found at places such as Alton Towers – which is probably just as well, because having watched extracts from Hitchcock's 'The Birds' in a 3D cinema at Universal Studios in Florida, I can testify that too convincing an effect doesn't necessarily make for a pleasant experience. You probably won't be able to gaze at your monitor for too long with the cardboard glasses on before you develop a splitting headache, but for short sittings the 3D effect *StereOp* produces is certainly passable enough.

StereOp lets you convert 8-colour IFF pictures into 3D images and save the results for viewing at a later date, and it also includes a simple blasting game in which balls seem to leap out of the screen towards you. If you fancy adding a couple of extra dimensions to some of your artistic creations then this is an extremely simple way of doing so.

CHRISTMAS CARD MAKER

By: Classic Amiga Software
Ware: Free
Available from: Classic Amiga Software
No of disks: One
Price: £1 + 75p P&P

With the festive season just around the corner, many people will by now be considering popping down to the local Hallmark shop to buy an enormous box of greetings cards. On returning home they'll have to trawl through a colossal list of friends and relatives, many of whom they haven't

Continued overleaf ➡



CHRISTMAS CARD MAKER: Make charming cards for your nearest and dearest.



CHRISTMAS CARD MAKER: Go on, they'll be ever so grateful.

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OTHER GOOD PD LIBRARIES

heard from all year long but who they feel obliged to send cards to because they wouldn't want to be the one to make clear what both parties have known all along: that they really can't be bothered with each other.

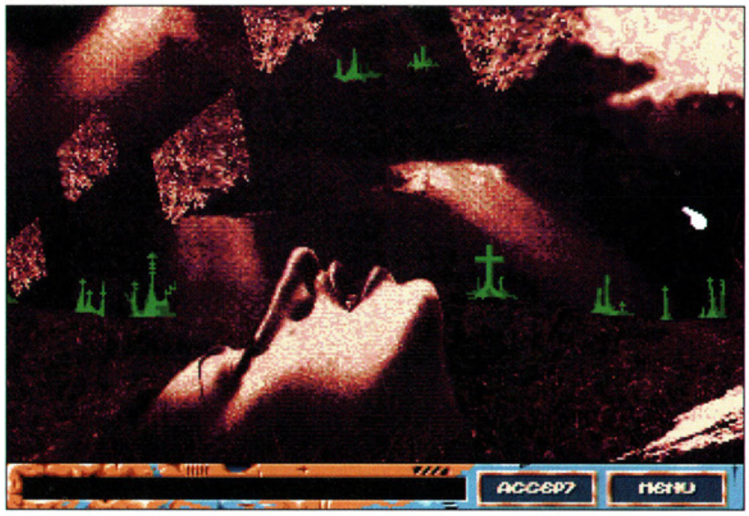
If you are too financially challenged to afford dozens of proper cards for people you don't really like, or you're at the point where you think certain distant relatives deserve no more than a Blue Peter-style DIY card, then you'll probably love Classic Amiga Software's *Christmas Card Maker* disk. It consists of a number of IFF images which you can load into your favourite paint package in order to cobble together some home-made Christmas cards, which you can then print out and send to grateful family, friends and acquaintances.

As well as a collection of snowy scenes, the disk contains a selection of messages and verses. The idea is that you cut and paste the elements of your choice onto a master 840x640-pixel card template. To be honest, you're not really going to be able to produce top-quality cards using this disk, especially if, like me, you only happen to own an aging 24-pin black and white dot matrix printer. Doubtless some creative owners of super-modern colour inkjets will be able to employ the various 320x256 images the disk contains to rather better effect. Still, it's the thought that counts, eh?

Christmas Card Maker is probably something that younger Amiga users will get more use out of, given their more limited budget, although I suppose it might inspire more creative adults to take some time and play around with their paint packages to produce something a little bit different.



CHRISTMAS CARD MAKER: No more last-minute panics when you get one you weren't expecting... now you can knock up a card in minutes instead of legging it to the shops.



BLACK DAWN REMIX: If you look sideways you'll see this girl's got a silly long nose...

BLACK DAWN REMIX

By:	ZSoft Productions
Ware:	Free
Available from:	17-Bit
No of disks:	One
Price:	£1 + 70p P&P



BLACK DAWN REMIX: Kill the sound and put your own music on...

The original *Black Dawn* game appeared a few years ago now, and it proved so popular that two sequels followed shortly thereafter. *Dawn Remix* (or *Dawn: A New Beginning*, as it rather confusingly calls itself periodically) is, like its predecessors, an unashamed *Dungeon Master* clone.

In terms of presentation, *Dawn Remix* is a little disappointing. The introductory screens are scarcely attractive and the instruction pages are littered with irritating spelling mistakes and grammatical errors. The music's diabolical, so before you even load up I'd turn your speaker volume right down, at least until you begin the game itself; and if you can figure out how to start a new game without resorting to random clicking or (God forbid!) reading the instructions first, you're a better man than I, Gunga Din. Incidentally, I'd check the instructions before you do anything else, because clicking on the instructions button later seemed to result in a crash every time I did it.

Considering that *Dungeon Master* first appeared around ten years ago and none of the clones which have followed (including the earlier *Black Dawn* games) have really developed the genre in any way, there isn't a great deal here that hasn't been seen several times before. You guide your character around the labyrinthine levels by clicking on a series of directional icons near the bottom of the screen. The various beasties you'll encounter on your travels, most of which look remarkably like small vibrating helicopters, need to be dealt with forcibly, and various objects need to be collected so that you can progress through certain stages of the game.

Some of the levels are rather similar and the earlier mazes are so drab that it's easy to lose your way – everywhere looks the same. That said, on later levels there are some nice graphical touches (falling snow in the Ice Wastes) and plenty of missions, which should ensure that completing *Dawn Remix* isn't a simple task. One for dedicated fans of computerised role-playing games.



This is no place for the squeamish, so turn back now if you are easily upset by scenes of violence and degradation. If you choose to enter you may face torture and punishment beyond your worst nightmares, only the bravest and most skilled fighters may challenge us, only the most deadly warriors can hope to survive an encounter with the Strangers.



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For 6 Human Players a Parallel Port Joystick Adapter Is Required. Please Note: The game dose work on a 2xSpeed CDRom but some intro Animations might be jerky



Greek Mythology informs us that the King of Minos imposed an annual tribute for 6 girls to be shipped to Crete and thrown as food to the hideous creature called the Minotuar who resides in a vast magical labyrinth in Athens. In this elaborate adventure game you play the part of Theseus, it is up to you to solve the complex puzzles and mysteries of the Labyrinth and eventually destroy the Minotaur aswell as locating all the girls that have been imprisoned and getting them out safely. The Final Odyssey combines logic puzzle solving with plenty of action and strategy, you will be armed with the most sophisticated weaponry and be thrown into a mind melting logical world of traps, enemies, puzzles and mini quests. The unique dungeon designs create constantly changing levels in gloriously animated splendour coupled with true 3D sound effects which all help to create a world that is very hard to leave.

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Plus a Free Two Player Hi-Resolution Bonus Game upon completion, Full Speech On-Line CD Manual

Minimum Specifications: Any Amiga, Hard Drive, 68000 CPU, 2Mb Memory *(1Mb Chip & 1Mb Any)*, 2 x Speed CD Rom
Utilizes if Available: AGA Chipset, Extra Chip Memory, Extra Fast Memory, Faster CPU, Faster CD Rom







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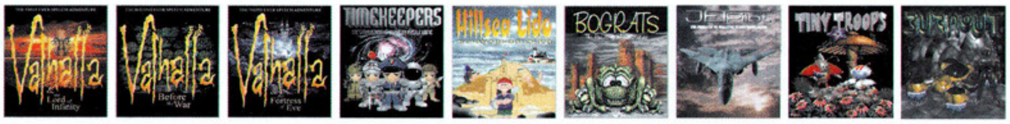
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1. No employees of Future Publishing or HiSoft are eligible for entry.
2. No cash alternative is available.
3. The closing date for all entries is the 12th December 1997.
4. Winners will be notified in issue 107 of Amiga Format and by post.

SERIOUSLY AMIGA



In-depth reviews of hardware and software, that you can trust

TESTED TO EXTREMES!

Have you got it working yet? No. It works here, but not with so-and-so. It's no wonder that we decided to go the whole hog on *Fusion*. It has the potential to be one of the Amiga's most revolutionary pieces of software, but you couldn't do it justice in a couple of pages. So, in the largest single software review that *Amiga Format* has ever undertaken, we present *Fusion 2.0* in all its glory, or lack thereof.

Of course, giving *Fusion* this much space has meant that some other things have been pushed back to next month, but that's okay because we'll have time to review them more thoroughly.

Ben Vost

AMIGA FORMAT'S REVIEW POLICY

is very simple. ***Amiga Format*** is staffed by some of the most experienced Amiga users in the world and what we say goes. OK?

WHAT OUR REVIEW SCORES MEAN

90+%	The crème de la crème. Only the very best, most versatile and effective products are awarded an ***AF Gold*** – the most highly prized rating there is.
80-89%	These products are very good, but there are minor flaws or areas that could be improved upon.
70-79%	Not a bad product but quite possibly one that needs a serious update.
60-69%	Average products with somewhat limited features and appeal. Products in this category tend to be flawed.
50-59%	Below average products which are unlikely to impress your mates or your wallet. Avoid.
40-49%	Overwhelmingly poor quality products with major flaws.
Under 40%	The absolute pits.

Fusion

TESTED TO AF EXTREMES!

Simon Goodwin puts ***Fusion*** head to head with ***ShapeShifter***, and awaits the release of energy...

Around the mid eighties two new micros took radical steps away from the command-dominated mainstream of CP/M and MSDOS. Macintosh and Amiga computers have grown and converged since, but both machines still represent unique, brilliant and enduring ways to make a computer useful.

Expanded Amigas can emulate Macs with ease – a fine Shareware emulator, *ShapeShifter*, is freely available and can be registered for $40. But now its dominance is threatened by a new commercial release. The eagerly awaited *Fusion* emulator hopes to supplant it, whilst also providing excellent support for older hardware emulators, Emplant and A-Max.



WHY MAC?

Macs are easy to use and there's lots of good – if pricey – software for them around. Old versions are bargains, as you don't need recently-added PPC code anyway. Macs run global champions like *Excel*, *NetScape*, *PhotoShop*, *Quark XPress* and *Word*. Games include *Doom* and *Duke Nukem*, which are not (currently) available on Amigas lacking Mac emulation.

Like Amigas, Macs are based on Motorola processors so programs should run at full speed, unlike software on PC emulators which are crippled by the need to translate every instruction as they run. Macs and Amigas are both good, and very different. So if you can have an Amiga AND a Mac – why not!

Current Amiga graphics boards and processors outperform 68k-based Macs, and with *Fusion*, PowerMac emulation is in the works for putative Power Amigas.

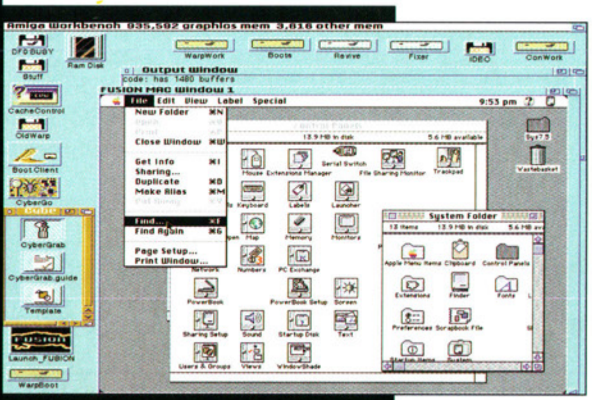
HARDWARE CONCERNS

Again like the Amiga, the Mac has a healthy proportion of its system code ready to run in pre-programmed ROM (Read Only Memory) chips. This must be available to the Amiga – with due deference to copyright laws – before the emulators will run. You also need the Mac system files, normally supplied by Apple on CD or HD floppy, which are the equivalent of Amiga Workbench disks – but more so.

Most modern Macs and emulators run 32-bit system files, known as version 7. The original 7.0 release works with *ShapeShifter* but not *Fusion*, which requires at least version 7.1 and prefers 7.5 or 7.6 – intermediate versions were not released. A third digit signifies minor changes, eg, 7.5.3.

> "Macs are easy to use and there's lots of good – if pricey – software for them around."

FUSION



Fusion's Mac screen in a Workbench window is clever but sluggish.

The new release, 8.0, occupies almost 300Mb of CD space and will currently only work with *Fusion*.

A-Max, designed for 16-bit systems, runs Versions 4 to 6, all limited to 24-bit addressing like the A1000, A500 and ZorroII Amigas. Emplant and A-Max Zorro boards can run system 6 or 7.

ROMS

Emplant demanded a 256k ROM image, keeping things simple for the emulator patches but making it obsolescent – 256k Mac ROM sets are rare in the 1990s, and unsupported since System 7.6. *Fusion* and *ShapeShifter* handle ROM sizes from 256k up. Most 68030 systems have 512k ROMs, with megabyte ROMs supporting the copyback cache in the fastest 68k Macs. 2Mb PowerBook and PowerMac PPC ROMs are useless on current Amigas – until you actually have a PowerPC based Amiga to emulate with.

A-Max and Emplant ROM sockets let you plug chips from a real Mac into your Amiga, and copy the code to an Amiga file. *ShapeShifter* introduced a different approach, later followed by *Fusion*. You need access to a working Mac, but don't need to take it apart to extract the chips.

A Mac program, (supplied with both), copies the system ROM contents to disk, for transfer to the Amiga. If you don't have *CrossMac*, this file can then be copied over on a PC format disk (or disks).

Version 1 of *Fusion* was incompatible with some of the claimed 143 Mac ROM variants; version 2 is more tolerant, but still not perfect and – typically – lacks any list of what will, and will not, work. Generally, you shouldn't have a problem using a ROM image from a standard machine, like a Quadra, Centris or an older machine like the MacIIcx.

KREK WAITER'S PEAK MAC*

A handy lexicon of Amiga and MacSpeak

Mac	Amiga
Control Panels	Preferences
Desktop	Workbench
Dialog box	Requestor
Extension	Commodities
Folders	Drawers
Initialise	Format
Preferences	EnvArchive
QuickTime	CDXL

*pronounce in Bristol accent

IN AND OUT

Real Apple Macs have serial ports, SCSI, optional Ethernet, and their own low-cost network called AppleTalk. Apple connectors are often peculiar and hard

Continued overleaf ➡

HIT THE BUFFERS

Emulated drives can appear to the Amiga as partitions or HardFiles. These are slower than dedicated partitions, but much easier to copy, backup and move because the Amiga regards them as large but otherwise normal files.

Access lags because the system cannot move directly to a given block. It must read the file sequentially to get to any position, because the blocks could be scrambled or 'fragmented' across the disk. The larger the HardFile, the longer this takes.

The 'cure' is to dedicate a partition, or add buffers. The standard block size is 512 bytes, when one block in every 73 contains a 'map' recording the location of that part of the file. This map must be re-read unless there's a spare 'buffer' to hold it in memory, so you normally need about one buffer per 36k for fast access to a large file, and over 1000 buffers (512k) for a 40Mb 'hard drive'.

Fast File System 3.1 (v40.1 or later) lets you use bigger blocks. This can make a terrific difference. First back up the partition, as changing the block size zaps the original contents. Then run *HDToolbox* (in sys:tools), selecting a drive and partition. Choose 'advanced options' then 'change...' to see the file system characteristics, and choose bigger blocks; values from 1k to 32k are allowed. Select OK, adjust the preset number of Buffers (bottom left) and OK again to exit.

You don't necessarily need Kickstart 3.1, as the file system Add/Update option lets you put a later version, overriding ROM code, in the startup area of your drive. Amiga International's web site has an 'experimental' v43 *Fast File System*, supporting bigger blocks, enormous drives, and ATAPI CDs.

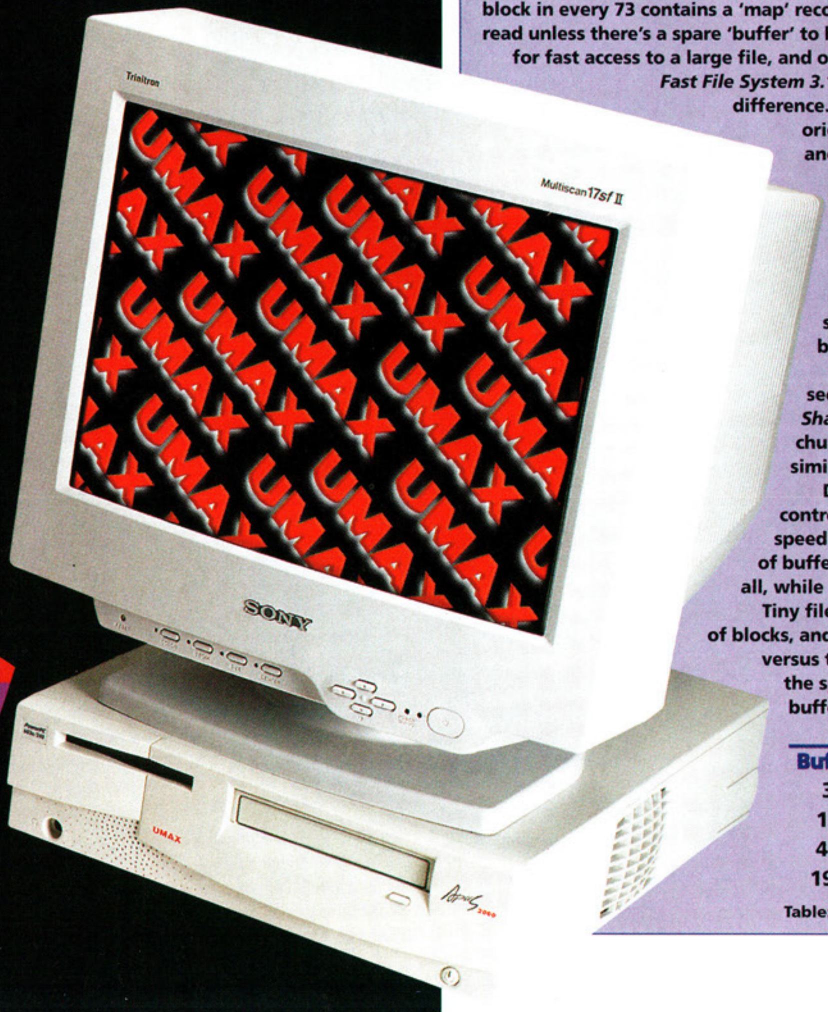
The table shows how this works in practice, with boot times in seconds for a given block size and buffer count. The test system used *ShapeShifter 3.1*, Mac OS 7.0, a 50Mb hard file and an 800 by 600 chunky *CyberGraphX* display; *PCx*, *Fusion* and *PC Task* deliver very similar results.

Doubling the block size quadruples the space each buffer can control (twice as many blocks, each twice as big) and boosts transfer speed as the disk interface takes bigger gulps. There's a 'right number' of buffers for a given size of file. An extra 90 half k buffers don't help at all, while 120 two k buffers are enough for hard files over 100Mb long!

Tiny files waste some disk space as they always occupy a whole number of blocks, and tired old programs like *AmiBack* may be confused, but the RAM versus time trade-off is massively improved. 60k or 240k deliver ten times the speed if you use 2k blocks instead of four times as many half k buffers.

	1/2k blocks		2k blocks	
Buffers	RAM used	Boot time	RAM used	Boot time
30	15k	324s	60k	26s
120	60k	324s	240k	18s
480	240k	182s	960k	17s
1920	960k	26s	3840k	17s

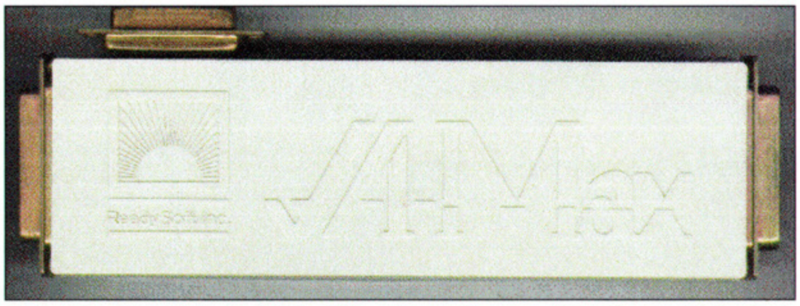
Table: Big blocks boost hardfile speed dramatically.



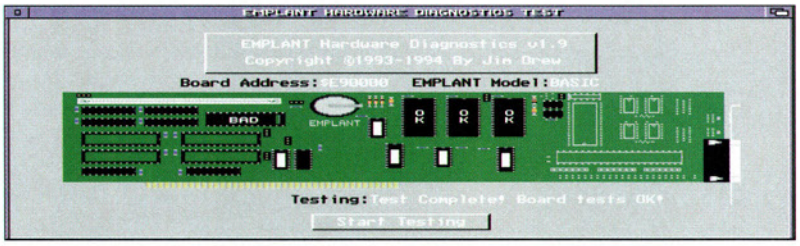
ON THE AFCD

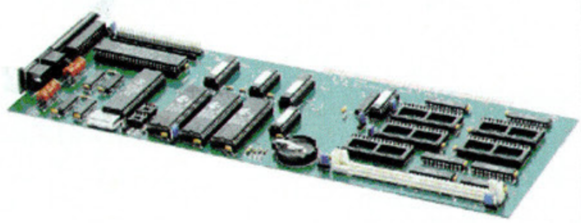
There's a treasury of Mac-emulation related utilities on *AFCD20* including:

AMax – Supra hard disk driver, flicker reducer and ROM accelerator.
BootFile – a cut-down Mac system 7.0 to get you started in *ShapeShifter*.
FAQs – A-Max, Emplant, *Fusion*, Mac and *ShapeShifter* answers.
Emplant – diagnostics, icons, screen and CD drivers for Jim Drew's debut.
Emulators – Amiga (really!), Apple][, Atari, Beeb, Spectrum, TRS-80 etc.
MacJoy – for Amiga joystick and CD32 joypad support to Mac emulators.
MacTools – transfer and convert files between Amiga and Mac.
MacView – A vintage Amiga application to display *MacPaint* pictures.
ShapeShifter – Christian Bauer's Shareware Mac 2 emulator and PD extras.



A-Max – four cheap chips, two ROM sockets, and an easily snapped Mac floppy socket!





Emplant hardware comes with reassuring diagnostic software (above). The Emplant card; (below) AppleTalk, SCSI-I and ROM sockets for Zorro.

to find (those tedious miniature DIN sockets). Both *ShapeShifter* and *Fusion* are capable of using the standard Amiga ports as their Mac equivalents, but you will still need connectors and convertors to attach them to genuine Mac hardware.

Floppy drives were originally non-standard, in 400k and 800k capacities with variable-speed 'zone' recording which made most of the data inaccessible to standard 300 RPM Amiga DD drives. Later models have

> **You can run a useful Amiga system in 6Mb RAM with a 40Mb HD, a Mac with that spec would barely start up.**

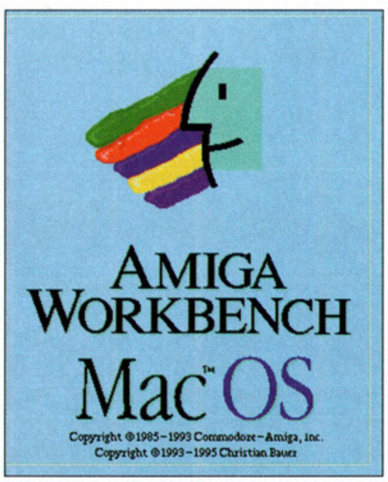
1.44Mb superdrives, compatible with normal HD floppies but also capable of accessing the weird old format, and double (720k) or HD PC floppies.

Macs are peculiar in many ways. There's only one mouse button, no command line, and you must explicitly 'shut down' your system to avoid loss of data. Disks should not be ejected unless you've moved them into the 'trashcan' first. Real Mac drives enforce this rule mechanically; on an Amiga you break it at your peril.

Fusion and *ShapeShifter* allow Mac devices to be mounted and used as Amiga drives while the emulation is running. You can also cut and paste text – but not graphics – directly between systems. Printing may be tricky as Mac system software only supports Apple's proprietary printers. There are free, third party, drivers for Epson and Deskjet printers, and commercial rivals. You can use 'desktop printing' to generate postscript files to print from the Amiga with *Post* or *GhostScript*.

SoftFPU – a Mac Shareware program – emulates a 68882 chip so programs using FPU code will work on machines without floating point hardware – albeit much slower than they were designed to run. Mac software is far hungrier for resources than Amiga equivalents – you can run a useful Amiga system in 6Mb RAM with a 40Mb hard drive, but a Mac with that specification would barely start up.

ShapeShifter supports most Ethernet adaptors, and *Fusion* definitely works with the Hydra Systems card, but in spite of much testing and prompting, failed to work with our Ariadne boards (although the author told us that other people had got the Ariadne to work). SCSI ZIP drives or CD-R discs are perhaps the ideal way to transfer data, but floppies and serial links are also possible. *AF102* documented the standard Amiga and Mac serial connections. As usual, add-on hardware boosts your options. *Fusion* also supports older emulator hardware.



Mac emulation need not stop you using Amiga software simultaneously.

A-MAX

A-Max boards fit a Zorro slot or Amiga floppy port, with sockets for Mac system ROMs. The original model had an interface for a non-standard 800k Mac drive – one simple TTL chip, with three more to get around the bizarre installation of 16-bit ROMs in a serial disk socket. A-Max II+ and A-Max 4 (for Zorro) add more ports and can read old Mac disks in an Amiga drive.

EMPLANT

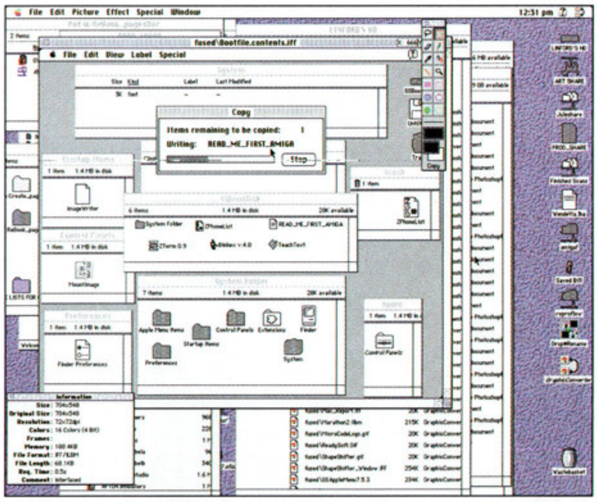
The 'basic' Emplant is a mostly empty board with timer and interface chips and DIP and SIMM sockets for Mac ROMs. It can be extended to 'deluxe specification' with a Mac-style SCSI-1 controller, AppleTalk network interface and a change of the copyright-control PAL (Programmed Logic Array). Emplant software requires this board – *Fusion* uses it, if present.

CATWEASEL

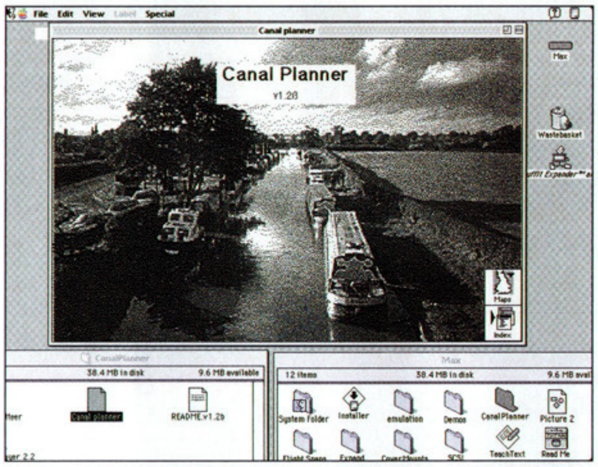
Fusion can access Mac disks via the Catweasel controller, faster than Amiga HD drives and supporting cheap PC-types. Catweasel itself lacks WB support for Mac disks, but works well alongside *Fusion* and *ShapeShifter 3.7* or later.

MAC FILE FORMATS

Mac Files are divided into forks – rather than keep separate icon and program files, as on the Amiga, most files have a 'data fork' and a 'resource fork'. Resource forks contain code, tooltypes, locale information and pointers to applications that created the data.



Fusion's minimal CD *BootFile*'s contents – with a typical screen-switching glitch.

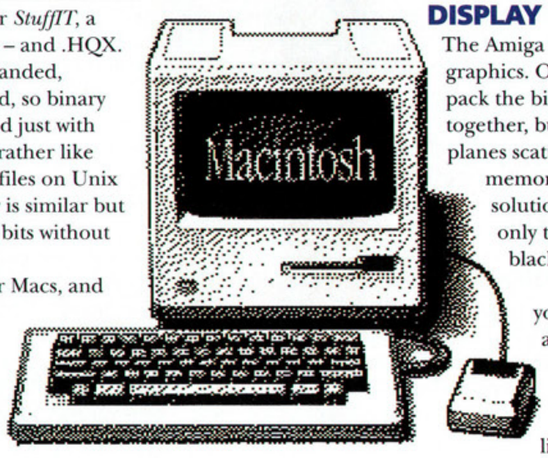


Canal Planner, Mac narrowboat AutoRoute, but where's the Cannock extension?

Handlers on the Amiga generally distinguish between forks by adding a prefix or suffix to the name. Macs support longer file names than Amigas, but this is rarely a problem. You can rename any file on a Mac by pointing under the icon, clicking and holding, and editing the name.

Common archive formats for Mac files are .SIT – short for *StuffIT*, a Shareware compressor – and .HQX. The latter files are expanded, rather than compressed, so binary data can be represented just with printable characters – rather like MIME or UUencoded files on Unix and Amiga. MacBinary is similar but shorter, using all eight bits without error checking.

LhA is available for Macs, and on our CD, but little used except to transfer files from an Amiga. ZIP is also supported, but uncommon, and sadly LZX is unknown to Macs.



DOCUMENTATION

Both *Fusion* and *ShapeShifter* come with documentation in AmigaGuide form but *ShapeShifter*'s manual is longer and more helpful.

The *Fusion* guide includes a glossary for anyone still clueless about terms like 'icon', 'Mac' and 'hard drive' and troubleshooting answers to 50 questions, but it has no index and is rather inadequate for a commercial product, especially one that can just stop dead or crash if not set up just right!

The old Emplant manual was worse, but the product was simpler and at least it came printed on paper. It helps to convert *Fusion*'s guide with a utility like *Guide2Text*, printing it out to ensure you've not missed anything.

Microcode do have a website which promises to provide more information, but that's not much help if you don't have an Internet connection.

Macs are easy to use, even by Amiga standards, but if you want to tweak the configuration you'll probably need help from a Mac guide, human or printed.

You shouldn't need much help understanding the Mac system or file organisation – most of it is self-evident if you've used an Amiga or PC Windows, which owe much to ideas pioneered on the Mac.

AppleGuide tries to replace printed documentation with hypertext, and fails for want of structure, detail and ease of use. Multitasking is feeble by Amiga standards. Bubble help, as in MUI, tells you the purpose of buttons your mouse pointer lingers nearby. Error messages are rare but typically useless – if a Mac program needs to issue a message, it's a design failure!

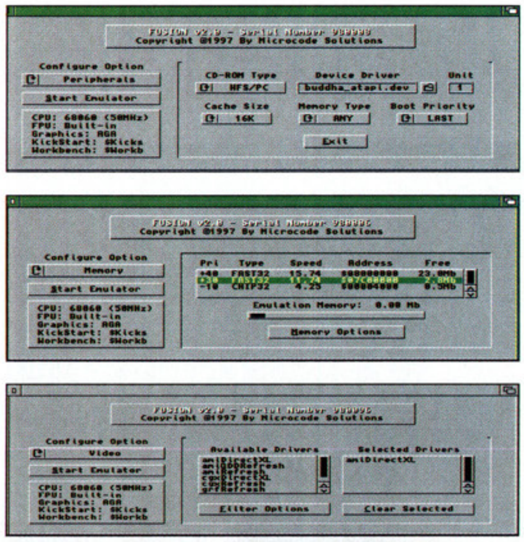
DISPLAY MODES

The Amiga has its own way of doing graphics. Other colour computers pack the bits for each pixel together, but Amigas store them in planes scattered around chip memory. This was a neat solution in 1985 – the Mac had only two colours to play with, black and white.

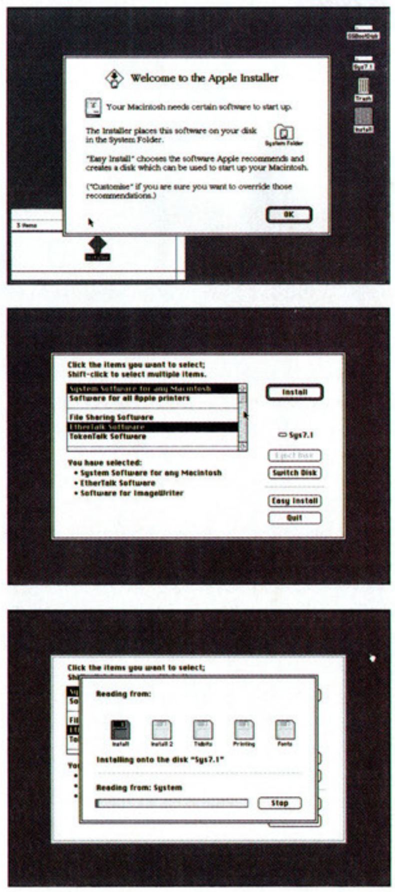
Amigas still work well if you're short of memory and only want a few colours on each line of display, or your software knows about specialities like HAM modes, but they're hassle for emulators because 'chunky pixel' operations that take just one step on alien hardware require six or eight, and often tricky arithmetic, on ECS or AGA Amiga graphics.

This bottleneck encouraged plug-in video cards which store displays as Mac, PC and Unix systems expect. Old cards offer more colours than contemporary Amiga hardware, and new models are faster in all modes. These require an Amiga with Zorro slots, and preferably a video expansion slot too, and they're not cheap either.

ShapeShifter has a well-defined interface for display add-ons, called EVDs (Extended Video Drivers) so

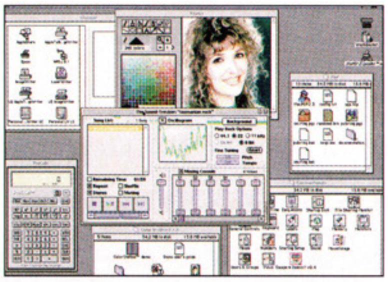


Fusion can access either an ATAPI or SCSI CD-ROM drive directly (top), needs contiguous memory (middle) and supports a variety of graphic drivers.



Apple's System Installer (top) is pretty but ponderously slow. *ShapeShifter* (middle) needs Ethertalk and System 7.0 or later for 'any' Mac. With installation underway (bottom), play Towers of Hanoi – slowly.

Continued overleaf ➡



custom support is freely available for most graphics cards and Amiga chip sets. It gives direct access to Amiga bitplanes, Grafitti, Merlin, Picasso 2 and Retina Z3 boards, as well as *CyberGraphX*, *EGS* and *Picasso96* retargetable graphics (RTG) schemes. Features vary so it's worth trying all the possibilities, including third-party drivers, to get the best match for your system and software.

The original Amiga Mac emulator A-Max stuck to mono Amiga graphics. Its rival Emplant added custom drivers for A2410, AGA, CyberVision, *CyberGraphX*, ECS and *EGS*, Merlin, OpalVision, Picasso 2, Piccolo, Retina, Spectrum and other esotechnica, but struggled to keep up with new arrivals.

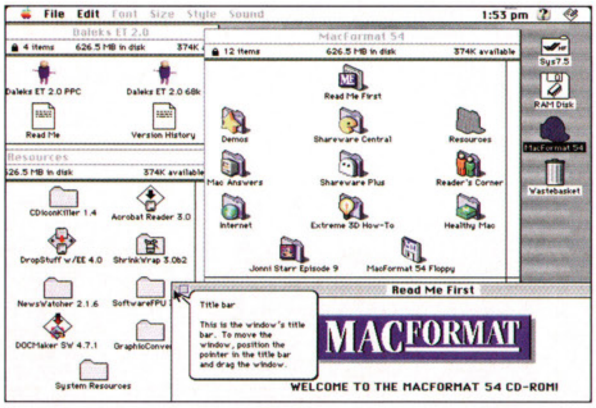
Fusion takes a more selective approach. The only cards specially served are the Retina Z2 and Z3. Others are driven via *Picasso96* or *CyberGraphX* RTG libraries, discussed in *AF101*. Only version 3 of *CyberGraphX* works properly. You're best off using *Picasso96* on a Z3 Retina, as long as you've got a modern Workbench – the custom Retina driver is less capable, but it's *Fusion*'s only non-Amiga native driver compatible with Kickstart 2.

GRAFITTI

Lateral thinking inspired German hackers to develop Grafitti, a plug-on which reads the digital signals from any Amiga video port and re-scrambles them so that 'chunky' display data can be stored in Amiga bitplanes. Display output software pretends it's got a chunky display map, ideal for *Doom*-style 3D, Mac and PC emulation; the hardware does the rest. This works but has limitations.

Grafitti offers 256 colours per screen, chosen from an 18-bit palette of 256k colours – more choices than with ECS but less than AGA.

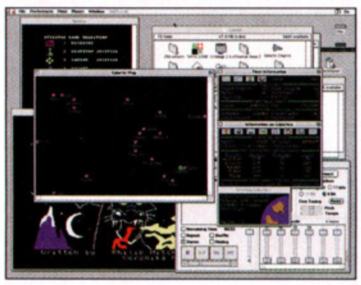
Old Amigas bottle out at 720 pixels per line, stalling Grafitti at 360 columns on 16-bit Amigas. This is too few for Mac emulation. AGA 'Super Hi-Res' modes have twice as many pixels, but



If *AFCDs* leave you wanting more *Fusion* lets you use *MacFormat* cover CDs too, and there are plenty of files on the Internet.

after Grafitti has finished you still only get 'Hi-Res' 640 to 720 pixel horizontal resolution, and no more than 283 lines unless you can stand a flickery interlaced display.

> **One major claim for Fusion is the option to replace Apple's QuickDraw system routines with optimised code...**



This 'Mac' is playing an Amiga MOD and two Spectrum games in resizeable windows.

The advantage is the software driver, and both *Fusion* and *ShapeShifter* come with Grafitti drivers which are much faster than software which translates displays into planar format on the fly. Grafitti is a neat hack, if you haven't got the internal slot, but any real graphics card will easily outperform it.

AKIKO

Fusion has two display modes just for CD32 owners! These use the Akiko chip, a sort of internal Graffiti without the resolution limits, which converts pixels from chunky to planar format in clumps of 32. Add-on *ShapeShifter* drivers can also use Akiko if it's there, benefiting committed CD32 owners with a keyboard, a hard disk and floppy add-ons.

QUICKDRAW

One major claim for Fusion is the option to replace Apple's *QuickDraw* system routines with code optimised for your display. Thus system-friendly Mac programs – which means most of them – can take advantage of Amiga optimisations and hardware assistance like blitters, on the motherboard or graphics cards, without the need for graphics to be rendered Mac fashion into a 'pretend' screen area and then periodically translated into Amiga form.

Benchmarks make the most of this advantage, rating *Fusion* far beyond *ShapeShifter* in *QuickDraw* graphics speed. With real programs the benefit is more modest, and there's a risk that shortcuts introduce new bugs.

REFRESHMENT

Some programs write directly to the Mac hardware, bypassing the system – an approach frowned upon by manufacturers but loved by hackers for its speed and simplicity. In these cases Jim Drew's *QuickDraw* boosters are sidestepped, leaving blank areas unless the entire display is periodically updated the hard way, dot by dot, to catch direct writes to the 'Mac' display which might not otherwise reach the Amiga. You configure the 'refresh rate' at which the whole screen is redrawn.

High values – more than about ten updates per second – give better animation but can sap most of the processor power, even on a fast Amiga.

MEMORY MANAGEMENT

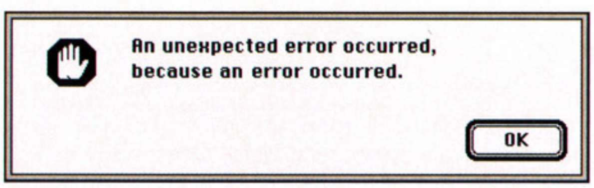
Salvation comes from clever, manufacturer-discouraged direct programming of the Memory Management Unit in superior Motorola processors. The MMU intercepts the processor's access to memory. It can shuffle a million 4k 'pages', monitor reads and writes and control processor caches, page-by-page.

Optimal refresh schemes use the MMU to detect modified parts of the screen memory, avoiding the need to refresh others. This is faster and less RAM-intensive than the alternative of 'delta buffering', comparing the old raw data with updates in an attempt to save redundant conversions.

MMU DIVINATION

Cheap Motorola processors – the original 68000, stock A1200s' 68EC020 and the 68EC030 in the A4000/030 and bargain accelerators – lack memory management. The 68040 and 68060 are available in bargain EC versions without memory management ($75 for a 50 MHz 68EC060!) but these are not yet used in Amigas, although they do work.

Mac emulators expect you to know whether or not your machine has a working MMU, to select an appropriate driver. MMU programming is a black art, forbidden by Commodore, and if you're not sure whether your MMU works the only way to find out is to try it – with a risk of crashing – or examine



Mac systems strive to avoid error reports – when they do appear, you know why!



***Marathon 2* runs nicely on a 68040 or above with Zorro graphics.**

the entrails of your Amiga, looking for the not-so-magic letters 'EC'.

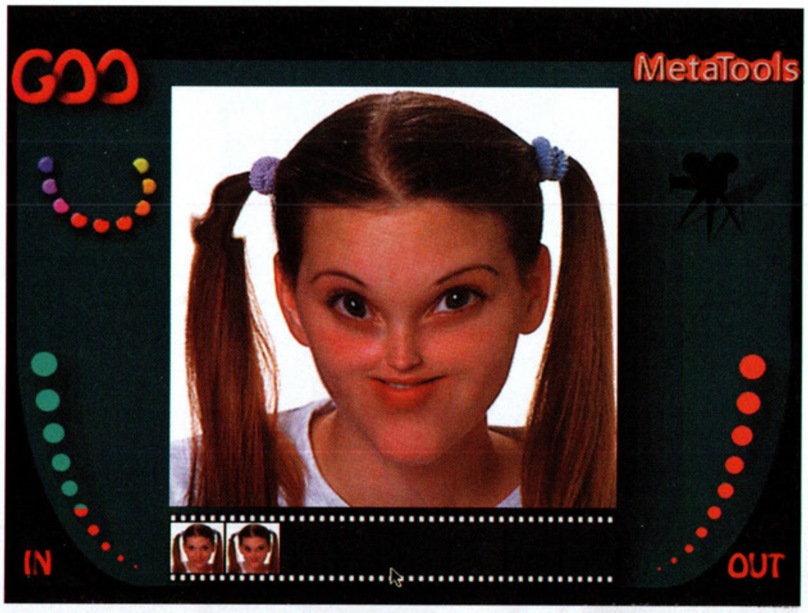
All A3000s and A4000s other than 4000/'030s boast hardware memory management. 50MHz '030 accelerators should all have MMUs, as the cheaper EC part is only available in lower speeds. 68020s require an external MMU chip, the rather obscure 68851; the original 68000 cannot support conventional memory management due to design oversights.

AMIGA MODES

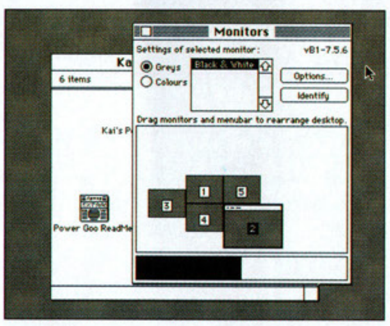
The simplest Amiga screen mode – a lone bitplane – works like the original monochrome Mac display, except that Mac pixels are square and the Amigas are usually oblong. When colour Macs arrived later they opted for packed screen modes, storing two 16-colour pixels or one 256-colour in each byte.

ECS Amigas can emulate 16-colour modes, but bitplane conversion makes them irritatingly slow. 32-bit AGA Amigas can manage 256 colours, but again this is slothful unless memory management is used to minimise processor overheads.

ShapeShifter's *AGAboost* does not require an MMU, but prefers a 68030 and uses a big delta buffer and a half megabyte table for conversions, laboriously rewritten at every palette change. *AGAboost* supports obscure AGA modes like Euro36 and Super72. It can speed things up by 'dithering' 256-colour displays into less demanding 64-colour modes. Despite the name, *AGAboost* can render 256-colour Mac software on ECS machines in 64-colour 'extra half bright' mode, although palette restrictions become obvious.

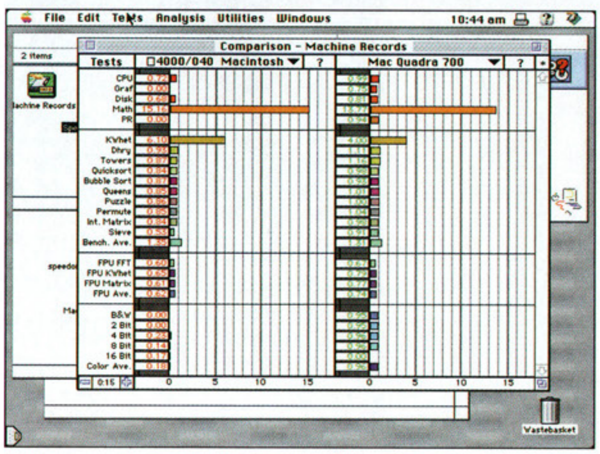


This is, would you believe, *MetaTools' Goo* running on a standard AGA display, thanks to *Fusion*.



***Fusion* handles the Mac's multiple monitor system (left) admirably – if you have enough memory.**

***Speedometer* (below), the Mac equivalent of *SysInfo*, shows a standard A4000/'040 in favourable comparison to a Quadra in all but graphic speed.**



THOUSANDS & MILLIONS

When 256 colours is not enough, even choosing them from a much wider palette, Macs take a different approach. 'High colour' and 'true colour' modes use five and eight bits respectively to determine the red, green and blue level of each pixel, giving 32,000 or 16 million colours. Humans can't distinguish all of the brighter variants yet some darker colours are not available, because our eyes are not linear like a computer display, but 'true colour' seems pretty close to reality.

AGA Amigas support 16 million colours, but not all at once. There are never enough pixels! HAM8 comes the closest, with 64 basic colours and the option to fine tune subsequent dots to an exact 24-bit hue.

AmiRefresh modes in *Fusion* emulate thousands and millions of colours on an AGA HAM8 screen. It works impressively, but it's slow (though not as slow as you would imagine).

Third party EVDs abound for *ShapeShifter*. AGA-EVD is aimed at basic '020 or '030 systems. It works accurately in 2, 4 or 8 pixel modes, and rather vaguely and slowly in HAM8, emulating the Mac 'thousands' setting. It can render four and 16-colour displays on ECS Amigas, but still requires Workbench 3.

ShapeShifter's *Savage* driver, from Hungary, supports 16 colours on all Amigas with an MMU, and 256 and 32768 colours with AGA. It outruns *AGAboost* and AGA-EVD, typically needing less RAM and CPU time, but requires a full-spec 68030. *FastECS* comes in 68030 and 68040 versions, using memory management to update 16-colour *ShapeShifter* displays on Amigas with 16-bit ECS graphics.

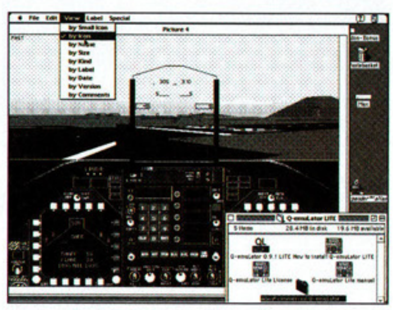
The venerable megapixel A2410 monitor is supported by *Fusion* through RTG, and a *ShapeShifter* EVD for the old *EGS* package.

BIG DESKS

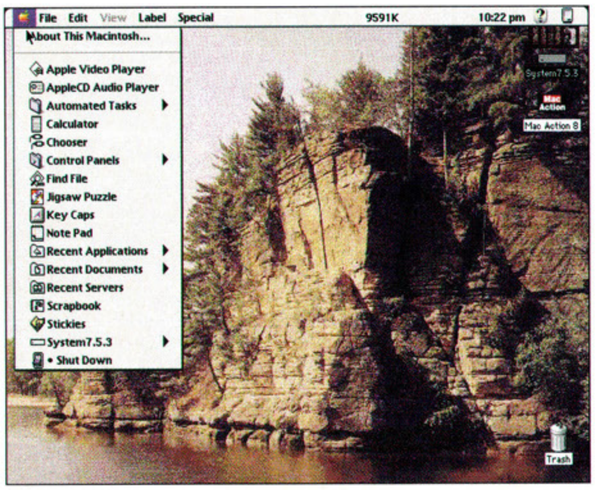
A Mac speciality is support for multiple monitors. You can position these to view a 'virtual desktop' so the pointer, icons and windows can be moved from one screen to the next, with all displayed at once. This is great for Computer Aided Design and Desktop Publishing, with tools and menus on one screen and the design uncluttered on another. ShapeShifter supports up to two displays, while Fusion can handle six, given enough output and monitors. In *Fusion* you can have different monitors set up on different Amiga screens, but this somewhat negates the advantage of having a bigger desktop area.

Graphics cards present some problems, Picasso 2 and *CyberGraphX* drivers can't detect screen swaps, so Mac and Amiga graphics sometimes appear on the wrong page when you swap screens, requiring a manual redraw to tidy up the mess. Picasso 2(+) and *EGS* system cards, like GVP's Spectrum, support only 256 colours without conversion. *CyberVision64* and *Picasso96* don't require conversion in 15-bit (thousands) and 24-bit (millions) colour modes, therefore making them that much faster. Retina, *CyberGraphX* and *Picasso96* support in *Fusion* consumes an extra 4Mb of fast RAM. This is a hefty extra burden – don't

Continued overleaf ➡



Demos for old models run very well, even in basic mono.



Full-screen backdrops were a recent arrival on Apple screens.

expect much change from 30Mb if you need to run *NetScape* and Mac System 8.

CONCLUSIONS

Fusion has arrived in a marketplace now dominated by the Shareware *ShapeShifter*. It follows Emplant and Emplant Lite and it's pure software: one 880k floppy in a CD box.

With help from both Nick and Ben, I've spent over a month trying *Fusion 2.0* on 68030, 68040s and A2/3/4000/060s, with Warp Engine and A4091 SCSI drives, ATAPI and ZIP drives, Catweasel, Buddha, Commodore IDE and HD floppies.

Each configuration required careful experiment, with changes of Mac ROM or CPU forcing reinstallation. The number of resets – forced and spontaneous – must number in the hundreds. But I persevered because, when it works, *Fusion* is brilliant, as you can see from the features discussed elsewhere.

Problems stem mostly from poor docs, bugs and Apple's restrictive practices. *Fusion* won't work with abundant, ready-made *ShapeShifter* boot files or the 'system disks' tailor made for each Mac model. You need a 'generic' system installation for any Mac, or the emulator sticks or crashes.

With *NoiseSome* in your WBstartup *Fusion*'s audio code gets stuck, leaving RAM allocated with no message and reset the only way out.

Once started, weird system-dependent errors can occur unless you tweak the setup. Some Mac extensions cause problems, and lock-ups far outnumber error messages. I could not get Mac System 7.1 to work at all, or boot from the System 7.5 Group Upgrade CD. My A4091 and CyberStorm 060 combo clobbers *Fusion*'s virtual memory, but it worked on the Warp Engine, favoured by Drew





The only known picture of shy *ShapeShifter* Christian Bauer (top). Emplant and *Fusion* guru Jim Drew (bottom).

MicroCode Solutions is former Emplanter Jim Drew's new incarnation.

MICROCODE SOLUTIONS

for development, and on a standard A4000/040. ATAPI and NEC SCSI CD ROMs worked, but my Toshiba 3401 would not.

COMPARISONS

ShapeShifter seems to have got stuck at version 3.8, with no updates for the last six months; it lacks the extras in *Fusion*, like multiple-monitor support, virtual memory – nascent in *ShapeShifter* – AHI 16-bit audio, almost-direct SCSI for scanners, DATs and Music CDs, System 8 compatibility and compatibility with the old Emplant hardware (handy if you have the Deluxe board, as it can then handle the SCSI, printer and modem ports).

But *ShapeShifter* is much easier to get started, better documented, and given plenty of CPU power even supports sound input, still a ghosted option in *Fusion*'s menu.

Both require at least a 68020 processor with Workbench 2, but *Fusion*'s 'minimum requirements' are more exacting than *ShapeShifter*'s. It demands at least Mac System 7.1, 4Mb fast RAM, 20Mb hard disk space and a high density floppy drive.

Mac system software is difficult to come by on floppy disks now and for the generic disk set (which you you will need to run *Fusion*), you are looking at paying a premium (eg, OS 7.6 is $99 on CD and $129 on floppy).

A set of disks designed for a specific Mac or range of Macs (eg, those that may have come with a Performa) may have worked on *ShapeShifter*, but are likely to lock up *Fusion*. However, if you own the rights, Apple's updater, to be found on their website, can upgrade you to the full system 7.5.3 from just a *Disk Tools* disk.

Fusion can boot from current (system 7.6 or 8) Mac CDs but it helps to have a *Disk Tools* floppy to initialise your first hard disk partition. Real Mac drives come pre-initialised, of course! The CDs include floppy disk images, but *Disk Copy* will only extract them with a genuine Mac SuperDrive (this won't prevent you using the many individual installers though). Other metal-bashing programs that fail include many MIDI packages – a great loss – *RAMdoubler* (so use real virtual memory!) and NetBSD (use the Amiga version). Many non-32-bit clean applications, usually very old versions of current software, or poorly coded Shareware, can also be run on *Fusion*, though only at the cost of losing the capability for virtual memory.

Fusion prefers *at least* 8Mb RAM, 50Mb hard disk space, System 7.5 or later, a 512k Mac ROM image, CD-ROM and a processor with both FPU and MMU. System 8 requires 16Mb RAM, about 100Mb of disk space and a full 1Mb ROM image, (patched by *Fusion* for any 32-bit Amiga CPU, not just a PPC or full '040 that Apple require).

Without CPU-card expansion, Amiga users will struggle to make enough RAM available. Worse, all the memory needs to be in one contiguous block. Macs cannot cope with memory in 'fragments', as the Amiga system can, and often must.

Fusion's virtual memory support trades up to 767Mb of hard disk space – and time – for real memory. Like all *Fusion*'s wildest hacks, it's system-dependent and may be hard to set up, but crucial for compatibility with greedy programs like *PhotoShop*.

Without the support of MicroCode Solutions and Blittersoft, *Fusion* would be too 'bleeding edge' to be useable. It's a pig to start up and still needs more testing on the myriad of potentially-suitable Amiga configurations. But it's ambitious, clever and good value if you've got the time and patience to get to grips with it.

WEB CONNECTIONS

- **A-Max support**
  http://www.crossconnect.u-net.com/AMAXHOME.HTML
- **Apple computer**
  http://www.apple.com
- **Fusion sales**
  http://www.blittersoft.com
- **Fusion support**
  http://www.ctaz.com/~msdei
- **Macintosh PD**
  http://hyperarchive.lcs.mit.edu/HyperArchive.html
- **ShapeShifter**
  http://www.Uni-Mainz.DE/~bauec002
  ftp://server.biologie.uni-erlangen.de/pub/shapeshifter/

DISTRIBUTOR: Blittersoft 01908 261466
PRICE: £49.95
REQUIREMENTS: WB3.1, min. 68020, 4Mb RAM, CD ROM or HD floppy drive.

SPEED: Impressive when it works.	●●●●●
MANUAL: Skimpy and disk only.	●●○○○
ACCESSIBILITY: Tortuous and frustrating to install.	●○○○○
COMPATIBILTY: Erratic to use until carefully tuned.	●●●○○
VALUE: Cheap by Mac standards.	●●●●○

OVERALL VERDICT: Very promising but, at the same time, very fragile.

80%

StormC v3.0 Professional

Riders on the Storm, whistles **John Kennedy**. Will this new C compiler light his fire?



Not every day do the tools necessary to create programs for the fastest Amiga on Earth arrive on your desk. In fact, today is a day of wild celebration complete with sacrificial virgins, for *StormC* has reached version 3 and that means something very special: the Amiga has broken through its original limitations. Yes, it's true: StormC can now compile code for the PowerPC processor.

This is the processor which Phase5 are using to create their own next generation Amiga machines, running at speeds which make today's Pentiums look lethargic. If your Amiga had a PowerPC, you'd have the power to match any PC system for games, graphics or just about anything: and it won't be long before you really will be able to buy and install just such a processor in your system.

Before then of course, we need the tools to write the software – and that's why *StormC* is such an important program. In fact, it gets even better because it also makes it possible to write applications for the pOS replacement Workbench. Not only can you re-compile your programs, but you can create them from scratch to take advantage of this growing desktop replacement. These are exciting times for Amiga programmers.

> "...today is a day of wild celebration complete with sacrificial virgins, for StormC has reached version 3..."

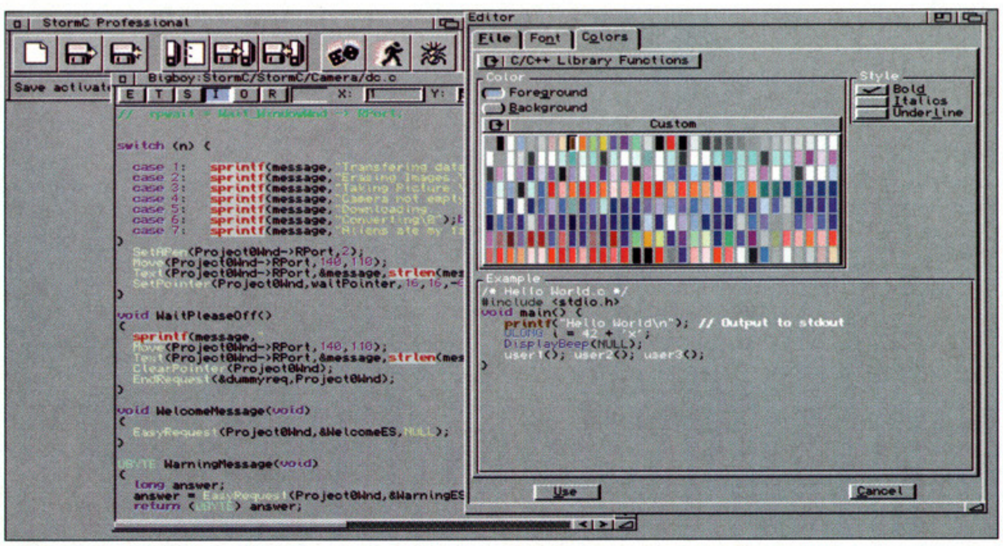
WHOOPS!

First of all, some apologies are in order, for this is not a totally complete review. The reasons are simple: to test this package completely would depend on us having access to hardware which irritatingly doesn't currently exist yet in a form we can use. Furthermore, a lack of linguistic skills has prevented the testing of an add-on package. For the latter, I apologise but blame the education system which insisted on trying to teach me English, French and Latin. (A programming language based in Latin? Now there's an idea). However, we can still use the standard Amiga side of StormC, and so that's what we'll do.

No-one will deny that the C/C++ language is messy. With a program of any size at all, you soon develop a large number of individual files. Some files are header files (that is, descriptions of functions which other program sections can reference) and others contain source code. Programs are split up into sections like this to speed up development: if you have created a function which works, there is no point re-compiling every time you make a change to another part of the program. Instead you place it in a file of it's own, and let the Linker attach it to the rest of your program

On top of that you have libraries, object files and various resource files. It takes a good memory to keep track of them all. *StormC* kindly provides you with a Project Manager, which takes care of all these files. It keeps an organised list, allowing you to quickly open the files you want in the text editor. Forget about playing with MAKE files, and hit the right button – your compiled programs pops out the other end.

StormC is the nearest thing there is to an Integrated Development Environment on the Amiga, and it's very, very welcome. It's even possible to dump the standard text editor (used to enter your source code) and use the very well-respected *GoldEd* instead.



If the default editor's colours are too scary, relax: you can change them.

NEW STUFF

Using version three of *StormC* is very similar to using previous versions. But there are important exceptions: now when you create a project, you have to choose which processor and operating system you want it to run under. The rest is much the same. You can write an entire Amiga application, and not know anything about the extra power at your fingertips – and in fact, this is exactly what will happen unless you buy the PowerPC and pOS optional extras. Keeping support for these platforms separate keeps the price down and means you only pay for what you actually need, which is obviously fair enough.

However, if you are a lucky/rich git, then you'll have a field day. The new Phase5 systems feature a 680x0 CPU and PowerPC system working in tandem, and

StormWizard v2

Ah, for the good old days, when programs were all text-based and no-one complained because they knew no better. These days of course we expect our application windows, menus, requestors and pointers and this means a lot of work for the programmer. In fact, it can take a frightening amount of effort and time to write the code looking after the buttons and menus and so on, sometimes longer than writing the rest of the program. Programmers therefore need help.

StormWizard tries to help out as much as it can. It allows programmers to create their Graphical User Interface by using a point-and-click interface themselves. Sounds confusing? Don't worry, it simply means that the program can drag and drop all the familiar gadgets and sliders in a window, and then generate the source code needed to create these gadgets automatically. *StormWizard* can help GUI programmers using C, E and Pascal.

This isn't a new concept, as there are many such programs available to programs (*GadToolBox* and *Developer* for example) but as this one bears the Storm name you would expect it to integrate nicely with the C compiler. The bad news is that I have no idea if it does or not.

Although it is indeed very powerful, and makes it possible to construct any GUI you can imagine, that's as far as I got. Tediously, the documentation is of a similar standard to the *StormC* compiler, if not worse. This means lots of frustratingly stilted English, the occasional section still in German, and hardly anything at all to help you work out how to integrate the source code produced by *StormWizard* in your programs.

WHAT IS C++?

Just when you get the hang of C, along comes a new programming language... It might seem that way, but C++ isn't particularly new. What it is though, is particularly useful – especially if you are considering a career as a programmer.

C++ builds on C, adding many more features. In fact, a C++ compiler can compile C programs, the languages are that close. C++ was originally called "C with Classes", and that is an indication of the differences.

Although C has many advantages, the freedom it offers programmers can causes problems, especially in larger programs. The ideal of "Object Orientated Programming" is built into C++, which makes it a much more robust and useful application writing tool.

The big difference is that not only can you define your own data structures in C++, but you can define the functions which operate on them. You have total control of the scope of the functions, meaning that other parts of the program simply cannot touch the data except through certain functions. This makes for much safer programs in the long run.

The definitive C compiler for the Amiga was always Lattice/SAS C. There was an official update to C++, but SAS ceased development before it could mature into a useful tool. There is talk of unofficial improvements on various Usenet groups, but nothing is available for certain.

No, I tell a lie: you are pointed to a drawer full of example programs, all full of German comments and therefore totally useless (unless you read German of course). As a result I was unable to write any programs which made use of *StormWizard*'s code, which of course, makes it a total waste of time. I hope and pray that the documentation will be re-written to be (a) useful and (b) readable, and that the source code examples will also be translated. Until then, avoid (unless you read German...).

DISTRIBUTOR: Blittersoft 01908 261466
PRICE: £69.95
REQUIREMENTS: hard drive, C, E or Pascal compiler

SPEED: ●●●●●
No complaints.

MANUAL: ●○○○○
Worse than the *StormC* docs somehow. Lacks basic information.

ACCESSIBILITY: ●●●○○
Scary to start with but examples help.

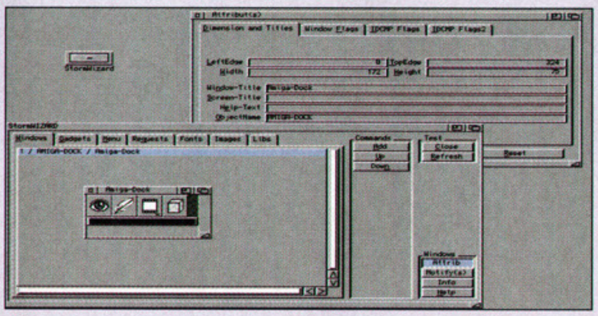
FEATURES: ●●●●●
Sings, dances, makes tea. Lots of excellent gadgets to choose from.

VALUE: ●●●●○
Just pay for what you need.

OVERALL VERDICT:
Probably very good if only I could understand it.

50%

StormWizard helps you design your program's graphical user interface, even complicated docking toolbars like this.



the *StormC* compiler allows you to decide which parts of your program should run on which processor. It's even possible, according to the manual, to debug PowerPC code. The recommended approach is to make the PowerPC run all the maths intensive stuff, and let the 68k look after the Amiga OS. It's a partnership which will make amazing things happen.

Back with my old-fashioned, A4000 though, and I was sceptical of the performance of *StormC*, not least of all because it crashed out twice for no readily apparent reason when compiling a standard C program. However, it worked on the third attempt, and the executable it produced was considerably smaller than the one produced by SAS/C (33288 bytes compared with 441240. But most impressive of all was the fact that the *StormC* program finished its job in 59 seconds and the SAS/C program took 1 minute 40 seconds. Compilation and linking times were comparable.

NEIN, NEIN, NEIN.

Documentation is a real problem for the *StormC* guys. Someone in the office has clearly convinced themselves that they can speak English well enough to write manuals. They can't. Even something as potentially dry and fact-driven as a compiler manual benefits from a proper grasp of grammar. Hey, I only write for magazines so I'm hardly the world's best writer, but it's ultra-annoying trying to read statements such as "Amiga is back for future". Learning to program is hard enough without having to translate each paragraph into sensible English first.

Continued overleaf ➡

It should be said that the manual doesn't attempt to teach you C, C++ or Amiga programming (thank goodness) so if you are new to these concepts you will need extra documentation. This usually means being stung for a £50 computer book from Waterstones, and a plea on a Usenet group for a second-hand copy of the official ROM Kernal Manuals. Learning Amiga programming is a rocky road but the hard work is worth it. Experience with C++ looks good on a CV, and you learn lots that can be applied elsewhere.

CONCLUSION

Am I a cruel and heartless reviewer? Yes, I like to think so. Of course I am delighted that the Amiga is still alive and that companies are taking the time to release such ground-breaking software. Only a few years ago, who could possibly have believed that we could be reviewing a PowerPC compiler? Now the PowerPC hardware has a real chance of seeing some awesome software appearing for it.

But, *StormC* isn't as well-developed as systems on rival platforms: Visual C++ from Microsoft (I kid you not) leaves it standing in terms of the on-line help alone. This isn't going to encourage larger development houses, nor will the fact that *StormC* still seems rather flaky in places (whoops, the profiler just crashed again). The documentation I've already mentioned (shudder).

Of course, the Amiga was built on the work of tens of thousands of home programmers, and for these stalwarts there is no choice. If you need a compiler which is still under development, which promises a way to use the mouth-watering new hardware which is just around the corner, then open your wallets and buy an English-German phrase book. Viel Glück!

DISTRIBUTOR: Blittersoft
01908 261466
PRICE: See boxout
REQUIREMENTS: hard drive

SPEED: ●●●●●
Fast compiler, surprisingly fast code too.

MANUAL: ●●○○○
Frustratingly translated from German. Not enough detail or examples.

ACCESSIBILITY: ●●●●○
Project Manager makes programming in C as easy as it's likely to get.

FEATURES: ●●●●●
StormC is certainly not lacking.

VALUE: ●●●●○
Just pay for what you need.

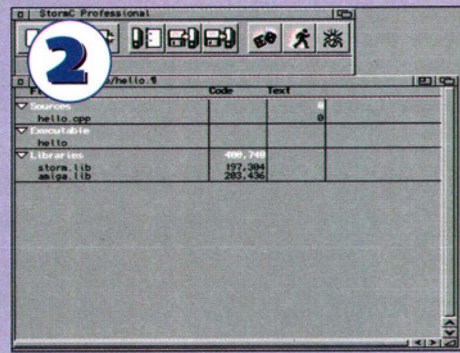
OVERALL VERDICT:
Ground-breaking features let down by docs and a few lurking bugs.

81%

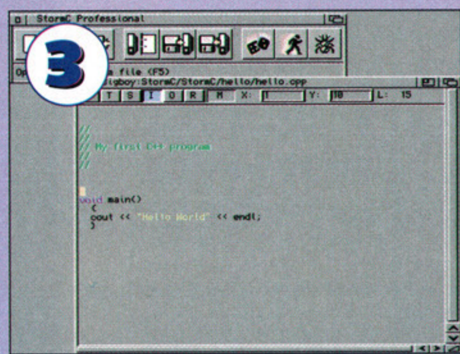
MAKING A SIMPLE PROJECT



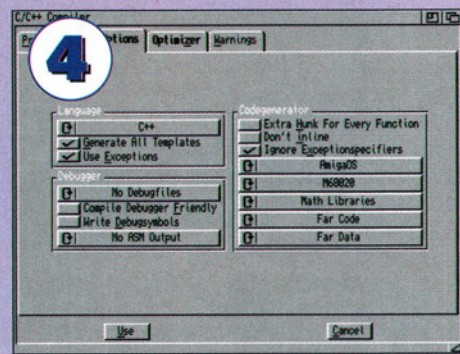
The new Project Manager wizard creates your project: all you need to do is decide if you are programming for AmigaOS or pOS, 68k or PowerPC. Of course, you'll need the optionally extra modules for all these yummy options.



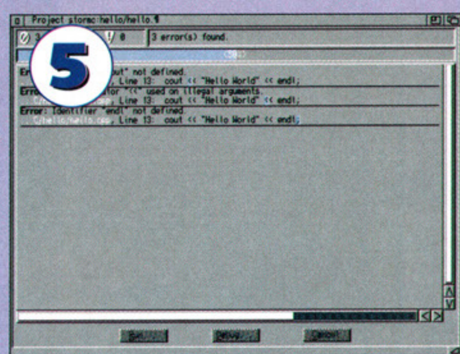
The Project Manager displays all your files in this window, making it easy to keep track of which files your project actually contains. To edit the source code, you only need to double-click on the name in the list, and up it pops.



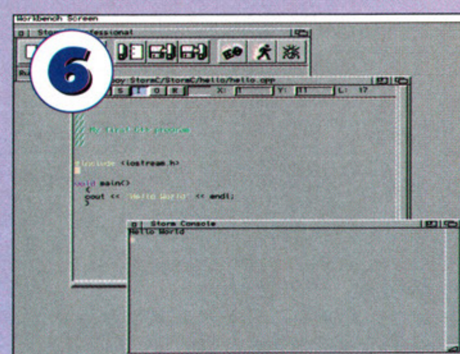
Now you can enter the program in the source code editor. The supplied text editor is pretty reasonable, and highlights different code elements automatically. If you don't like it, you can use *GoldEd* instead.



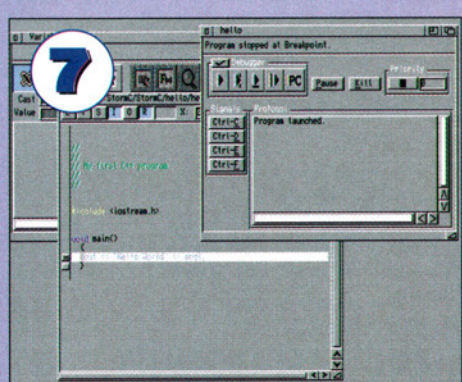
Before compilation, you can configure the final code for a particular hardware setup. This means you can take advantage of an FPU, or the extra instructions present in a 68040 processor. The end result is faster code, which can only be good news.



During the compilation process, any errors are flagged. You can double-click them to open the text editor in the right place. These errors indicate that I've stupidly forgotten the #include statement, and so the compiler doesn't know what "cout" means.



Once this obvious blunder has been corrected, the program will run perfectly. *StormC* handles the start-up code for windows and CLI applications sensibly, so you can concentrate on writing your program first and foremost.



If your program is still not behaving itself, you can use the debugging facilities to look through the program, step by step. This is incredibly useful for tracking down obscure bugs in the program and checking on the contents of variables.

PRICES

StormC v2.0 base package (non commercial full version) – £119.95
StormC v2.0 base package (Professional full version) – £179.85
StormC v3.0 – p.OS module (base package required (bpr)) – £TBA
StormC v3.0 – PowerUp module (bpr) – £TBA
StormC v3.0 – PowerASM module (bpr) – £TBA

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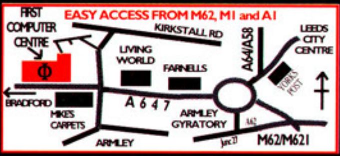
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Amiga Hardware

Amiga Magic Packs

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The Complete Software Suite For All Your Internet Needs. Includes 30 days FREE Internet Access, excluding local call charges
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Branded DSHD

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500 Disk Labels	£6.99
1000 Disk Labels	£9.99

Amiga X-Cad available FREE from our Web site! - http://www.firstcom.demon.co.uk/

Dynamode 56k modem & software pack

A new modem and software from OnLine PD. **Darren Irvine** wonders whether it might be time to put the brakes on!

AMIGA GOLD FORMAT

You've got to wonder how fast modems are going to go. Only a few years ago, we were being introduced to the then revolutionary 28.8k modem, and this was said to be the theoretical limit for phoneline comms. Then along came 33.6k, again touted as the "theoretical limit". Now we have 56k modems. What's going on? Well, as you might expect, there's a bit of a catch. Two catches in fact, if you're using a standard Amiga.

Firstly, to be able to take advantage of the 56k speeds theoretically offered by this modem, the service that you are calling will also need to support this speed. More importantly, this sort of speed is actually in excess of what the standard Amiga serial port can handle. It's not all bad news – 56k modems are quite happy communicating at the lower speeds and since this modem is at least as cheap as a 28.8k model was 6 months ago, you may as well go for it if you don't already have a modem. If you do have a 28.8k model you'll need to consider whether a 56k modem will, in practice, leave you any better off.



The nippy Dynamode 56k modem comes bundled with stacks of useful comms software.

DSVD

This Dynamode 56k modem also supports DSVD – Digital Simultaneous Voice over Data. Unfortunately there isn't any Amiga software yet but it works fine on the PC, so the facility will be available if anyone develops suitable software for your machine.

The Dynamode modems look like you'd expect modems to look like – little plastic boxes with flashing lights and these days one modem works pretty much as well as the next one. You're looking for a combination of build-quality, reliability, and price.

The Dynamode units seem sturdy enough – it passed the all-important "Can you balance a lager can on it" test. Transfer speeds from both BBSs and the Internet were no faster than with my 33k6 modem, but this is because the serial port in my A1200 isn't up to anything better. Of course, the modems come with a serial port lead (standard 25-pin, but if you have a Surf Squirrel, they'll supply a 9-pin one at no extra charge). You also get a phone lead splitter, so you can plug your phone and the modem into the same wall socket (remember though, not to pick up the handset when you're online...).

This bundle from OnLine PD also comes with not only enough software to get you started with BBSs and the Internet, but in fact almost every piece of Amiga comms software you might possibly ever need. As their name might suggest, Online PD know a thing or two when it comes to Public Domain software, and they've pretty much gone to town in terms of what they supply with these modems.

> *"OnLine PD... have pretty much gone to town in terms of what they supply with these modems."*

There are 37 disks of software to play with, and the choice of software on the disks fairly obviously pertains to comms in some way or other (except for the inclusion of *MUI*, the user interface that a number of other programs require). There are systems for connecting to the net (*AmiTCP*), Web browsers (*AWeb II*, *IBrowse* and *Voyager*) and all the other usual Internet- type stuff, such as mail (*Voodoo*) and news readers (*GRn*), although there is no one installer for all your internet needs and beginners would be better off with something like NetConnect. You also get a range of BBS-type software, from old favourites like *Ncomm* to *Fidonet* software like *Trapdoor*, as well as a Fax utility.

IN CONCLUSION

If I have any gripe with this modem it's the lack of decent printed docs, but since OnLine have supplied a number of disk tutorials, this shouldn't be too much of a problem.

As an added bonus, when you buy a modem pack from OnLine, you'll be entitled to a further 10Mb worth of downloads from their own BBS system, enabling you to get hold of any other software that you might need. All in all, this is an pretty comprehensive package which has been tailored specifically for Amiga users.

PRICES & DETAILS

- Flash ROM upgradeable
- K56Flex
- Voice modem
- 2 year warranty
- Add-on software and accessories worth £38

Dynamode 56k modem + 37 disk software bundle: £129.99 + £7.50 for courier delivery

37 disk "BBS & Internet" pack: £25.50 • 30 disk "Internet" pack: £21 • 8 disk "Comms Pack": £6 (free p&p)

DISTRIBUTOR: OnLine PD 01704 834335
REQUIREMENTS: Any Amiga (although some software may need extra memory and WB2+)

SPEED: ●●●●●
Performed well on good lines.

MANUAL: ●●●○○
No manual but useful guides and other docs on disk.

ACCESSIBILITY: ●●●○○
No integrated solution for Internet beginners but good overall.

FEATURES: ●●●●●
Software covers every online need.

VALUE: ●●●●○
What else could you want at this price?

OVERALL VERDICT:
Whatever your online needs, this bundle will cover it.

90%

Eyetech's Autumn Amiga Specials : A1200 Magic Packs with £180 worth of vouchers - £249.95; Accel's from £68.95 - Forget '030/50's - get ~3 x the power with an 040/25MHz (19 MIPS) for just £138.95, 39 Mips '060/50MHz £278.95; A600 33MHz '030/MMU/FPU /standard simm to 32MB - £99.95; DIY-EZ-Tower from £99.95; 8-speed CDPlus £149.95; 460KBaud PortJnr £46.95; SX32 from £149.95; (Price down, New)

The All-New Eyetech EZ-TOWER

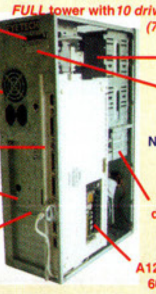
"This definitely one of the easiest solutions to building your own tower." John Kennedy, Amiga Format - July 1997

If you can use a screwdriver you could build your own A1200 tower system in less than half an hour!

It Couldn't be Easier!

- √ Remove the case top and keyboard ribbon cable *(No shield removal required).*
- √ Slot in the ribbon cable from the optional PC/ Amiga keyboard interface.
- √ Mount existing and new hard and floppy drives and CDROM units in the bays using the screws provided.
- √ Connect up the drives power and data cables.
- √ Clip the A1200 motherboard/base into the custom backpanel.
- √ Push on the power/HD/ FDD LED adapter and the A1200 power connector.
- √ Put back the outer case. Thats it! ...

Now You've Got Tower Power!



(*optional extras)


The A1200 EZ-Tower

NEW! Mk2 EZ-Tower with PSU - *still only £119.95*
DIY option - all parts/instrs provided - £99.95

EZ-Key A1200 adapter for PC & Amiga kbds- just push in the ribbon cable!	£39.95
7 x Zorro II slots expansion board *With accelerator pass-through.*	£179.95
Single Zorro II slot adapter for graphics card - *with accel pass-through.*	£99.95
- as above with built-in *EZ-Key* interface built-in	£134.95
Single Zorro II slot + Cybervision 64/3D 4MB graphics card - bundle -	£269.95
EZ-DF0 A1200 tower DF0: diskette drive with faceplate and interface	£34.95
Squirrel adapter for EZ-Tower - with int HD/CDROM & ext Centr's 50w skts	£19.95

Collection, fitting and delivery service - Please ring

...Or buy a CDPlus unit (below) and get an EZ-Tower for just £99.95*
(*as an alternative to the regular CDPlus case)



Amiga 1200 Magic Packs

- Direct to Eyetech from Amiga International Inc.

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- √ Full ***EZ-Tower*** with ***EZ-Key*** keyboard adapter, ***Windows95 keyboard,*** and ***250W psu,*** with software and manuals as above and with mouse, mousemat & TV lead. (No A1200 k/b or psu)
- √ ***25MHz '040*** processor (approx 19 Mips) with MMU & FPU and ***16MB*** of program memory.
- √ ***1.7GB TowerDrive*** with Workbench 3.1 and shareware utilities preinstalled
- √ ***8-speed CDROM*** including the ***Eyetech 4-device buffered interface*** and ***fully registered CDROM/hard drive/IDE Zip drive/LS120 driver software preinstalled***
- √ ***880KB floppy drive*** including faceplate
- √ Fully installed and tested together with all relevant cables and manuals

AND the option to have fitted:

- √ An ***LS120*** 720KB/1.44MB/120MB drive/cable for ***just £99.95 extra*** (at time of purchase only)

HEALTH WARNING

"A buffered IDE interface is essential to avoid overloading of the A1200's IDE port when adding extra devices" - John Kennedy - Amiga Format - July 1997

Don't be tempted to skimp. Fit an Eyetech 4-way IDE/ATAPI 3-chip buffered expander to preserve your Amiga's Health. ***The original and best - Just £39.95***

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The CDPlus is now available with a, 230W, CE-approved, PC MiniTower* or Desktop* case (which can also power your A1200) - *for only £20 extra*
(*as an alternative to the regular CDPlus case)



What do the reviewers say?

Amiga User International - *97%*
"... It all worked faultlessly ... "
Amiga Format - *96%*
"... An absolutely superb bit of kit.."
Amiga Shopper - *90%*
"... This is a quality product..."

The Amazing Iomega *IDE* Zip Drive

Another first from Eyetech

- √ *Can be used in place of - or as well as*- the internal hard drive*
- √ *Use a different bootable cartridge for each application or family member*
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- √ ***Fits in any Amiga/desktop/minitower floppy drive bay or in external case***

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A1200 *InstantDrives* & *TowerDrives*

***InstantDrives* and *TowerDrives* are *only* available from Eyetech**



"The fastest drive I have tested on any platform ...95%" **- David Taylor - Amiga Format February 1997**

Important Notes!

Thinking of buying a **BIG** drive? Dont waste your money on ***ANY DRIVE OVER 4.3GB*** as the Amiga O/S doesn't support it! (2^32-1 bytes actually). Be warned!

3.5" hard drives - even those described as *'Slim'* - are usually 1"/25mm high and ***will not*** fit in an A1200 without significant modifications to the case and metal shielding - which itself reduces the value of your computer.

- √ InstantDrives require no hole drilling, case clipping, or shield removal required and 3.5" InstantDrives come Inclusive of full fitting kit and easy-to-follow instructions
- √ All drives come ready-to-use with WB3.0 preinstalled & WB2.x install script.
- √ All drives over 350MB also come with over 45 top quality utilities (not shovelware) ***and*** MMe multimedia authoring software preinstalled, configured and ready-to-run.

InstantDrives:		2.56GB AV(~3MB/s)	£219.95
TowerDrives:		1.7GB	£159.95
2.11GB	£169.95	3.2GB	£189.95
4GB - Take your Amiga *to the limit!* - for just			£249.95

2.5" InstantDrives for the A600, A1200, SX32 & SX32 Pro

344MB	A 2.5" drive ideal for the SX32Mk2 and for the A1200/A600	£99.95
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1.8GB	This top-of-the-range drive is perfect for the A1200 & SX32Pro	£199.95

D-I-Y and Bargain Corner

Hard-to-find parts for your Amiga project

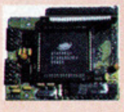
Hard , floppy drive cables and cases	
2.5"-2.5" 44-way 2.5" HD cables 9cm **£8.95**, 13cm ,**£9.95**, 60cm	£19.95
2.5" 3x44-way hard drive cables for 2 x 2.5" drives (6cm+6cm)	£12.95
3.5" power & data cables for A600 & A1200 **£14.95;** full fitting kit	£24.95
3.5" external hard drive case **£19.95**, 3.5" removable drive case	£24.95
Metal CDROM case (no psu) **Free with another purchase (1/customer)**	
3 x 40-way IDE cable for 3.5" HD/CDROM ~85cm/2' 9"	£9.95
Custom 3 x 40 IDE cables to 1.5m/5' (enclose drawing)	£19.95
3.5" hard drive to 5.25" bay mounting adapters	£5.95
2.5" hard drive to 3.5" bay with 3.5" data/power cable adapters	£11.95
3.5" floppy/SyQuest/Zip drive to 5.25" bay mounting adapters	£6.95
40 pin m-f detachable data cable forexternal 3.5" HD/CDROM's	£9.95
Slimline external floppy/IDE SyQuest/IDE ZIP/IDE Jaz case	£9.95
SCSI cable 25way 'D'(m)to 50way Centronics (m) (1m)	£9.95
SCSI cable 50way Centronics (m) to 50way Centronics (m) (1m)	£9.95
2 x 34pin ribbon cable + faceplate for A1200 int'l floppy in tower	£12.95
23p-M to 23p-F external floppy ext'n cable **0.5m £12.95; 2m**	£14.95
Audio & video cables and adapters	
3.5mm stereo jack plug to 2 x phono plugs for CDROM	£5.95
CDROM standard 4 pin inverted T audio connector & phono plugs	£9.95
Phono plug x 2 to phono plug/socket x 2 audio mixer leads	£6.95
Stereo 2 x phono plug to 2 x phono plug 1.1m/4' (4.8m/16' **£9.95**)	£4.95
Stereo speakers (pair), with amp (16wPMPO) & mains psu	£9.95
Power supplies , cables and PC towers//desktops with integral psus	
IDE or SCSI CDROM case, 40w PSU, audio & data connect's	£59.95
Enhanced metal cased PSU for A600/A1200/CD32/CDROM/ external HD (fit your old lead - instructions provided)	£29.95
Mini-tower or desktop case with 200W/230W PSU, CD & HD/Zip bay, power lead connector block, resistor, cable restraint etc, & full instr'ns	£39.95
Genuine CD32 PSU **£14.95;** Genuine A1200 PSU	£19.95
4-pin M-F HD prw extn 0.9m/3' **£9.95;** 4-pin(m)->2x4-pin(f) splitter	£6.95
23 pin m floppy drive connector to 4 pin HD/CDROM power plug	£9.95
Miscellaneous	
A1200 /SX32 internal cooling fan - dissipate that extra power!	£14.95
VGA 23-15 pin adapter for A500/600/1200 **£12.95;** buf for A4K	£19.95
A4000 kbds (new) for CD32/A2000*/3000*/4000 (*adapter +£5)	£39.95
50MHz capable PGA FPU £39.95; A1200 RAM boards	£29.95
Amiga CDROM disks - our selection - 5 for	£10.00
A1200/A600 internal floppy drives £24.95; A1200 keyboards	£29.95
Amiga microswitched mouse with mousemat	£6.95
28.8/14.4 compact data/fax modems £39.95, 14.4/14.4 from	£19.95
A1200 Workbench 3.0 disks (5) £14.95 WB3.1 disks (6)	£19.95

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***PortPlus* - high speed serial and parallel port expansion**

- √ *2 x **460Kbaud** buffered serial ports with low CPU overhead*
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PortPlus - just £89.95! (WITH parallel port driver!)
New! *PortJnr*- 1 high speed serial port - *just £46.95*



Apollo Accelerators - Unbeatable pricing

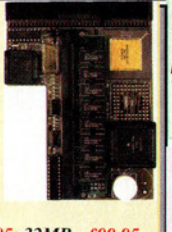
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Power User A1200 '040/'060 accelerators (no tower req'd)	
25MHz '040 with MMU & FPU. (19 Mips)	*- Only* £138.95
33MHz '040 with MMU & FPU. (25 Mips)	*- Only* £158.95
40MHz '040 with MMU & FPU. (30 Mips)	*- Only* £198.95
50MHz '060 with MMU & FPU. (39 Mips)	*- Only* £278.95
66MHz '060 with MMU & FPU. (51 Mips)	*- Only* £339.95

A Standard A1200 is rated at 1.3 Mips. All measurements from Sysinfo

Memory : 4MB - £18.45; 8MB - £29.95; 16MB - £54.95; 32MB - £99.95



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4-device A1200 buffered EIDE i/f	£39.95
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EZ-DF0 **interface for Sony floppy**	£14.95
EZ-DF0 **i/f, with Sony floppy & cable**	£39.95
DiskPlus **DD/HD Amiga & PC 2x FDD i/f**	
- for A1200 hard drive IDE port	£64.95
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PortPlus 2x 460Kbaud ser + 1 x par	£89.95
PortJnr 1x 460Kbaud serial port	£46.95
Audio mixer skts/leads for EZ-Tower	£19.95
Zorro II/III	
GG2+ - use PC cards in Z2 slots	£129.95
IDEPlus 3x2 IDE + 2x DD/HD PC & Amiga floppies. With full IDEfix CDROM s/w	£79.95

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Due to space limitations some of the specs given are indicitive only - please ring/write for further details. **Please check prices, specs and availability before ordering. If ordering by post please include a contact phone no.** Goods are not supplied on a trial basis. E&OE.
All prices include VAT at 17.5%.
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Workbench

Just lie back on that comfy couch and relax. Expert *AF* counsellor **Graeme Sandiford** is here to resolve problems with your hard drives and printers. Book an appointment at: ***Workbench • Amiga Format • 30 Monmouth Street • Bath • Somerset BA1 2BW.***

AFCD20:-In_the_Mag-/Workbench

ON THIS MONTH'S CD

ON THE CD

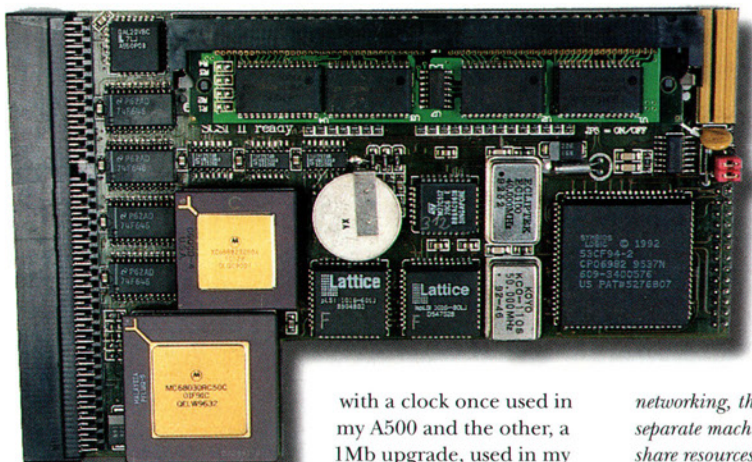
Many of the programs mentioned in these pages can be found on the CD in the Workbench directory.

HALF MAN, HALF SCREWDRIVER

I've decided to purchase the EZ tower from Eyetech and the Viper MkV 1230 from Power Computing. I have an A1200 from Amiga Technologies, the HD is a 170Mb Seagate IDE. I also have a Canon BJC 4000 colour printer and two external floppies that were used with my A500+. My mission is to have the Amiga, the Mac and the PC all networked under one roof.

1. Is the EZ a full tower or just an average size tower, and if it's average would it be large enough to cater for the extra motherboards etc.?
2. What network/emulation software should I buy?
3. Would a 250W PSU be able to cope?
4. What would be the best graphics card for the Amiga in this type of setup?
5. Would I be right in thinking that *DOpus 5* is the best WB replacement?
6. What 16-bit sound cards are available for the Amiga these days?
7. I have some memory upgrades gathering dust. One is a 512k upgrade with a clock once used in my A500 and the other, a 1Mb upgrade, used in my A500+. I was wondering what would happen if I plugged them into the A1200? As a true Amigan, I was born with a screwdriver in my mouth so if there are any adjustments/modifications to be made to anything mentioned above, please don't hesitate to say.

Jack Strand
Glasgow



One of the fastest '030 accelerators for your A1200, the Viper MkV should be fine in a tower-cased Amiga.



Squeeeze in! This tower, unlike the Tardis, is too small to house more than one complete computer.

Watch you don't put your eye out trying to type with that screwdriver in your mouth. Let's get stuck into the answers.

1. *It's a full tower, rather than a midi-sized tower case. Are you talking about trying to fit the Amiga and a PC or Apple in the same case? No, don't do it! It wouldn't be possible (at least without a huge amount of effort) to fit more than one motherboard into the case. This is especially true as the Eyetech system retains a large proportion of the A1200 casing. Also, the design of PC cases provides one surface to attach to the motherboard: the second board would have to float in mid-air. Then you have the problems of the parallel, serial and keyboard connectors. And if you want to add Zorro slots or expansion cards to the PC... no, don't do it. Get two tower cases and make a UN Trade Tower model instead.*
2. *Depends what you want to network and/or emulate. For Apple Mac emulation, the best product in my view is* ShapeShifter. *For PC emulation,* PCTask *and* PCx *are quite evenly matched, as the recent* AF *emulation series has shown. When it comes to networking, the best option for linking separate machines is Ethernet. If you want to share resources with a single Amiga and a single PC, then use Siamese. If you want something cheaper, use* NetworkPC *which connects the Amiga and PC via their parallel ports. It's horses for courses.*
3. *A 250W power supply can keep a well-stocked Amiga operating very happily. Trying to run more than one computer off it, would probably not be a good idea.*
4. *The PicassoII+ is a cheap solution but if you want to use the CyberVision64/3D or the PicassoIV properly, you'll have to ensure that you have a working video slot too.*
5. *I guess so. I like Workbench though, and don't feel the need to replace it. I use* DOpus *to supplement it.*
6. *More than you might think. Other than Aura, there are several Zorro-based cards, such as the Prelude. See the feature on AHI sound in* AF102.
7. *You can't plug them into the A1200, as the connectors are different sizes. There is no way that I know of to make use of A500 trapdoor memory expansions on the A1200, certainly none which would be worth the considerable effort involved.*

APPLE OF YOUR EYE



I have owned an A600 for several years, (connected to a portable colour TV), and have just bought an Apple Mac LC III. I would like to use both machines and leave myself some desk space. Is it possible to connect my Amiga to the monitor of the Apple Mac (which has its own power supply)? A couple of dealers have told me that this is not possible but on page 98 of your September issue (AF101), there is an advert for a device called SuperScan which looks like it would be suitable. Do you know of a UK supplier of this device?

S. P. Briggs
Taunton

Yes, you need a piece of hardware which updates the A600's video output to a format suitable for VGA monitors (such as the Apple monitor). This is effectively a framestore, which captures two frames from the Amiga, and re-transmits them at the necessary frequency (about 31kHz).

We have yet to review the SuperScan module, and at the moment, don't know of any dealers.

RADICAL SUGGESTION

I own an A1200 with a 50MHz '030, CD-ROM and 10Mb of RAM on the hard disk, (170Mb).

1. I mounted the RAD drive and copied all the necessary files used when booting to RAD, so that I could boot from RAD. Upon mounting RAD I noticed that it takes up chip memory and this is annoying. Is there any way that you can change it to take up fast RAM instead?

2. I'm thinking of learning how to program and I was wondering which language would be best to use?

3. My 170Mb HD is almost full and I am considering something like the Jaz drive but I can't find information about prices anywhere. Would it be feasible for me to buy one from a PC catalogue, if it connected to a SCSI interface, for example? (I have one built in to my accelerator). Any ideas?

Adrian McKenzie
Ross-Shire



The Jaz Drive was designed to offer unlimited expansion potential.

1. Yes, by default RAD uses chip RAM and there is nothing you can do about it. Except that is, use a different Recoverable RAM disk instead. One of the best is StatRam which allows the use of other memory types. It also grows and contracts dynamically, making the most of your precious RAM. There is also a patch for the Blizzard card available on Aminet, to let RAD live in the expansion RAM on these accelerator cards.

2. When it comes to programming, there has been a recent resurgence in C compilers, with the Storm C package (see the review in this issue). C is the best programming language to spend time learning, as not only is it very fast, but it is cross-platform: the skills you learn will still serve you well if you want to get a job as a professional programmer.

However, C is not easy to learn – if you want something simpler, try ARexx which comes with all modern Amigas. There are plenty of books to choose from, and as an interpreted language, it's easy to write and debug programs. If you want to write games or other graphics programs, I'd recommend Blitz Basic.

3. HiSoft are the experts using these products on the Amiga, and sell the hardware and specially-written Amiga utilities. Contact them for the latest prices (currently about £449 for an external SCSI version). There should be no problem using the SCSI interface on your accelerator, as this is exactly the kind of thing it was designed for.

MISSING TOOL

I am having trouble loading *DPaint IV* on to my recently-purchased hard disk. In the manual it says to double click on the install icon, but there is no install icon. I have written to Electronic Arts several times and although they have been very helpful, each suggestion seems to be different from the previous one. The latest reply tells me to create a folder on my hard disk, double click on the floppy disk

Continued overleaf ➡



Having problems installing *DPaintIV*? Workbench can help.

BRIDGING THE GAP

I have an A2000, with 80Mb of hard disk, and an extra 2Mb of RAM. My problem started when I upgraded the machine to Kickstart and AmigaDOS to the 3.1.

1. With WB1.3 there were no complications with Bridgeboard 286, but now I still have to boot with 1.3 if I want to see Bridgeboard and use the other half of my machine's brain. Can you show me the way to use Bridgeboard under WB3.1 and booting from the hard disk?

2. Is it possible to upgrade the BIOS of the Bridgeboard 286 with another more recent one? (Not Commodore).

3. I'm going to apply a graphic card (Picasso II+) to my system: may I have any problems?

4. Is it possible to find Janus software on Aminet?

Luca Beccati
Italy

1. Sorry, because we do not have a Bridgeboard in the office, we cannot perform any experiments with Workbench 3.1. Perhaps a reader with a similar set-up will write in and let us know, but frankly, with such an old system I would be very surprised.

2. Similarly, we've not heard of any BIOS upgrades – does the BIOS have to be Bridgeboard-specific, or will any 286 compatible BIOS work? It might be worth removing the BIOS ROM from an old PC and using that.

3. The PicassoII+ should work just fine in your Amiga 2000, whether or not it works with the Bridgeboard is another matter.

4. Finally, yes, there are a few utilities for the Bridgeboard on Aminet, including updates to the Janus software and utilities which allow the Amiga side to read the PC hard drive and so on. Well worth a look.

icon and drag all the files/folders into it, then repeat this procedure for all disks. They say that all the *Deluxe Paint IV* information should now be in the folder that I created. However, I just get a screen saying "unable to open your tool *DPaint*".

B. Worley
Mid Glamorgan

Make sure you aren't double clicking the icons inside the floppy directory, just single-click them. You only need to highlight the icons, and then drag them to the location on your hard disk. You do this by locating the pointer over the icon, pressing the left mouse button, and while keeping it pressed, drag the pointer to the new location.

The easiest thing is to make sure Show... All Files is set in Workbench's Window menu, and then use Select All to highlight all the files in one go. Now you just have to hold the shift key down so that you can drag and drop all the files in one go.

NAME DROPPING

I recently bought a 160Mb, 2.5 inch hard disk for my A1200. When I try to copy the games installers from cover disks on *AF*100 and *AF*101 to my hard disk, I get a box requesting me to "insert volume work in any drive". Why doesn't my Amiga realise that 'work' is my hard disk partition? The hard disk is definitely plugged in properly as I have had no problems installing other software to it.

Carl Pike
Kent

There could be some confusion over the names. Most Amiga hard disks are partitioned into two separate logical drives (ie, not two separate pieces of hardware), with one named "Workbench" and the other named "Work". As well as these names, the hard disks also have more hardware-related names as well. In the same way that your floppy disk drive is df0:, the hard disk partitions also have names such as dh1:, dh0: and so on.

There are two things which might be going wrong. Firstly, you might not have a partition called "Work". You might have only one partition called something else. Secondly, the installation program might actually be looking for a hard disk name such as "hd1:" and your particular hard disk might be called "dh1:" or something else altogether.

In either case, here's what to do. Make a note of the name which the installation program is looking for, say "Work". Now use the ASSIGN AmigaDOS command to link that name to the true name of the hard disk. Say your second partition is actually called "Stuff". If so, you should open a Shell and enter:

```
assign work: stuff:
```

From then on, anything which references the partition called "Work" will actually be referencing "Stuff". To avoid having to enter this command every single time you re-boot your Amiga, you can add it to the s:user-startup file, which will cause it to be started automatically.

TOWER UP!

I have read a lot about tower computers in *Amiga Format* but am still undecided as to whether to put my Amiga 1200 in to a tower, due to the hardware that I run. It is as follows: Magnum '030 with 40MHz FPU, 16Mb of RAM, 2.5 inch 250Mb internal hard disk, 10-speed external CD-ROM drive and a M1438s monitor.

1. Is it worth putting my A1200 in a tower, considering the hardware that I run with it?
2. If I upgraded, is there much capacity to upgrade on the Zorro slots, and if you use Zorro slots, can you use the PCMCIA slots as well?

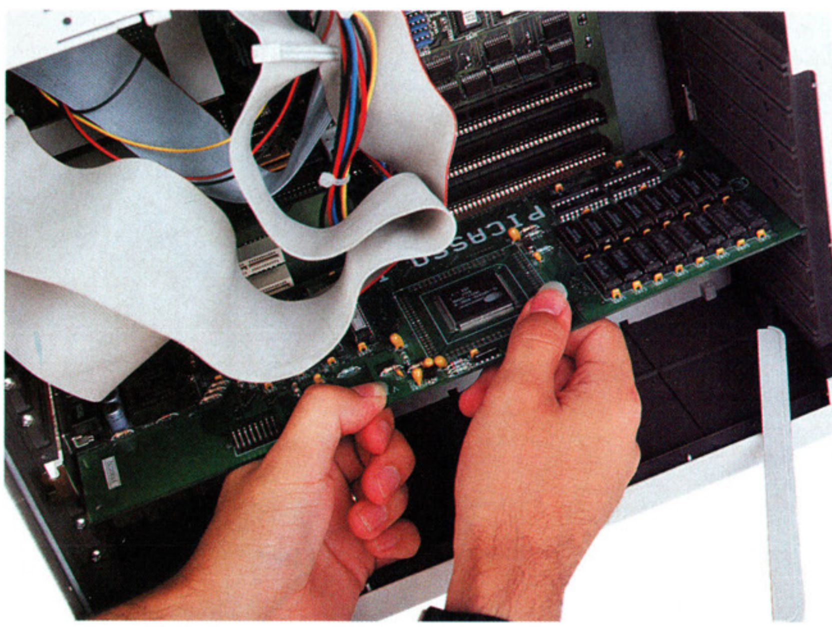
The only thing I am likely to get in the near future is a modem and then later on, I plan to beef up the graphics capabilities. I would appreciate any advice you can give me.

Philip A.
East Sussex

1. In my view there are only two genuine reasons for converting an Amiga into a tower case. Firstly, the extra space that a tower provides makes it easier to add 3.5" devices such as hard disks and CD-ROM drives. Secondly, with the Amiga housed in a tower, it's possible to add Zorro slots with some additional hardware. Anything else is pure vanity.

In your case, unless you are convinced you really and truly are going to buy a graphics card, I would say hold on a while. None of your peripherals (with the possible exception of the CD-ROM drive) merit the move to a tower. The modem, for example, will most probably be an external unit. Wait until you are going to buy the graphics card and then get the tower conversion kit at the same time.

2. Yes, it's possible to use the PCMCIA port and the Zorro card expansion systems at the same time.



One of the best reasons for "towering" your Amiga is a graphics card.

CD OR NOT CD?

I'm a little confused. I have an Amiga 600, 2Mb RAM, WB2.05 and an external floppy drive. Can any CD-ROM drive be used on my A600 (providing I have the required interface)? I was going to get the 4-speed drive advertised by Gasteiner but I was told 'sorry... we don't sell A600 CD-ROMs'.

Judging by the price, I would assume that it is a PC CD-ROM drive but using a 44- to 40-pin IDE cable, wouldn't it work anyway? Even if it was SCSI, I could get a Squirrel, so what were they going on about?

Peter Luckhurst
Croydon

I've asked around, and yes, I agree – it should work. The only problem might be that the software expects a 68020 processor or better, and your A600 features a 68000. However, there are definite reports of A600s using CD-ROM drives, so you should be fine. Don't expect to do any AGA/CD32 emulation, but you probably knew that anyway.



A600 owners needn't be left out in the cold when it comes to running a CD drive.

A Quick Guide to...

FILE FORMATS

1 The Amiga very sensibly introduced the concept of IFF, or "Interchangable File Format". IFF files can contain images, text, music or other data files. Every time a new form of data needs to be stored, IFF can be expanded to support it.

2 Inside the IFF file (the "FORM") is a special chunk which tells the program loading the data what format to expect. For example, a sound sample would include 8SVX to indicate an 8-bit sample file.

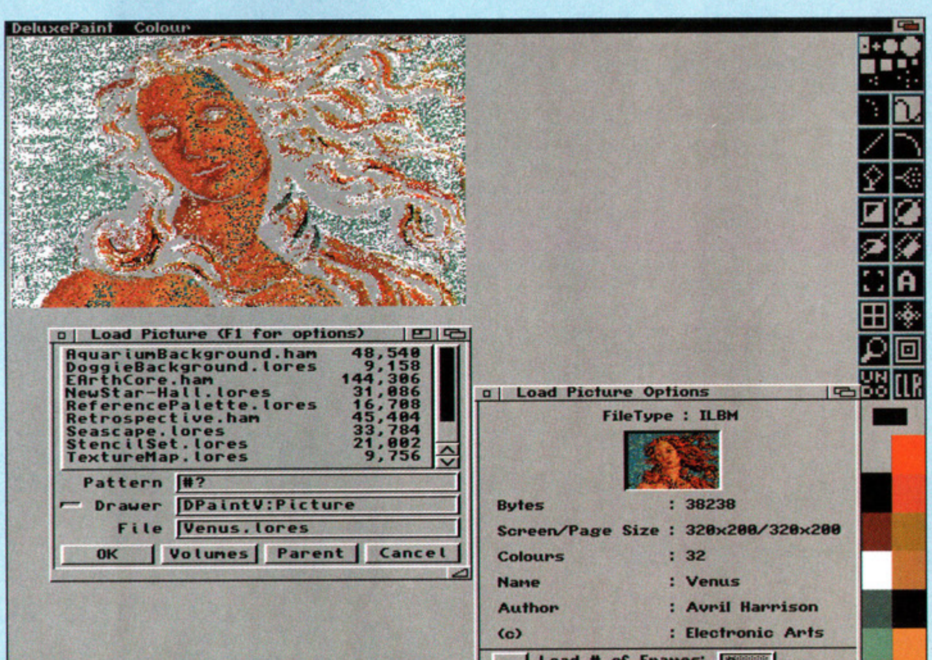
3 A single IFF file can theoretically contain multiple files, but rarely does.

4 Programmers can make use of the special IFF libraries included as part of the Amiga operating system to make their programs save, load and examine IFF files. There are many tools on Aminet to make it possible to look "inside" an IFF file.

5 Other computer systems rely on individual and unrelated file formats. For example, there are dozens of formats for images alone, including: BMP, GIF, TIFF, JPEG,PCX, PCT and so on. There are variations within each format too: GIF87 for example.

6 Datatypes allow any Amiga program to understand any data format – as long as it has the necessary datatype. For example, a GIF datatype allows a paint program to load an image saved in GIF format, without knowing anything about what GIF files look like itself.

7 There is full documentation on the IFF standard in the official Rom Kernal Manual: Devices, and on the Developer CD-ROM.



Electronic Arts helped to develop the IFF standard that is widely used on the Amiga.

MUSIC AXED?

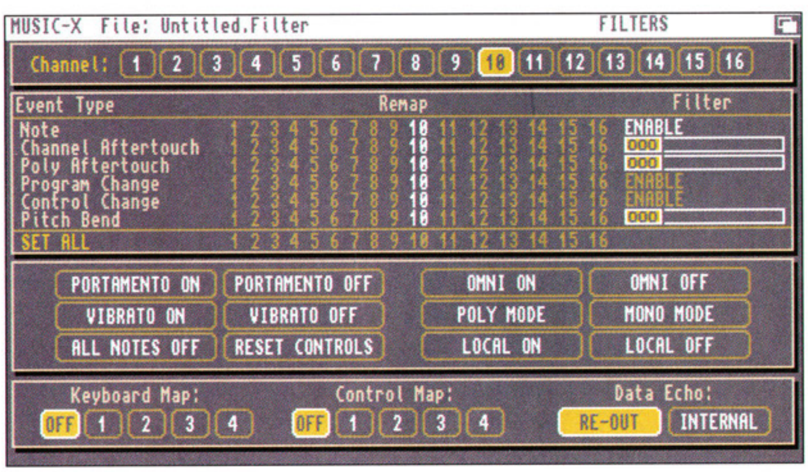
I have had my Amiga 500+ for over four years and have used it solely for specialised animation software. I have not looked into any of the wide-ranging capabilities that the Amiga can provide. Having rather insulated myself into the animation programs, my knowledge is somewhat limited to that area. However, I bought the *Music-X + Notator* package recently and finally got round to seeing what it could do. I was impressed at the layout and simplicity of the programs, until I hit a problem.

I use an SY35 synth as the mother keyboard. All the send and receive channels are set correctly and the MIDI cables are correctly connected via the MIDI interface. When I try to record even a few sounds, the notes seem to stick. The error indicator begins to register errors on an ascending scale as I continue to play. Clearly the data is being 'skipped' in some way. I suspect it is the MIDI interface, but I wait to be corrected!

Jonathan Metcalfe
Camden, London

It isn't necessarily the MIDI interface at fault. It could be something as simple as using cables which are too long, or not genuine MIDI cables. However, I suspect that it's a "local echo" problem. This means that every time you press a key on the SY35, a note is sent to the Amiga. The Music-X *program then sends it back to the SY35, creating a loop which can bring any MIDI system to its knees within seconds.*

This facility is useful: for example, if you are using the SY35 as a keyboard but want to hear the notes played on an external MIDI module. The solution is to switch off the local echo settings – the setting is available on the SY35 and Music-X, *but the SY35 one alone should suffice.*



If you're getting a local echo, then change the settings in *Music-X* or on your keyboard.

FFS!

I am running the *AFS* filesystem on an A4000/'060 with 24Mb fast RAM. My computer crashed while I was deleting the contents of a directory. If I try to access that directory now I get a "Wrong Diskblock ID" error, after which my entire DH1: partition is write protected. This is most annoying and the error is not explained in the *AFS* manual. What can I do to solve this? Answers including the word 'reformatting' will be omitted.

Pieter Frenssen
Belgium

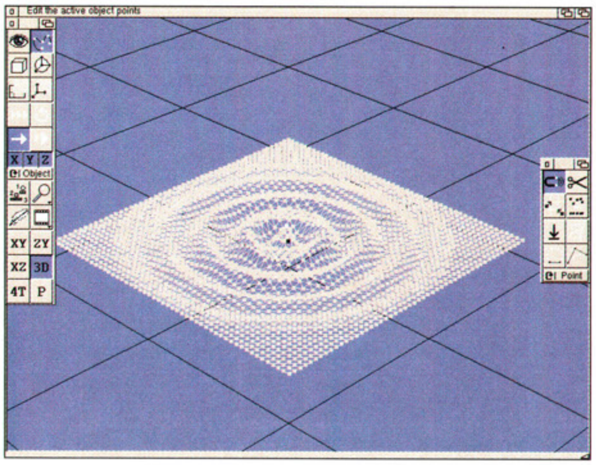
*I'm sorry, but as we all use the default Amiga standard FFS around here, you are on your own. If none of the usual Amiga hard disk-fixing software (*AmiBack Tools, Quarterback*) does the job, then you might try to find the special version of* DiskSalv *for* AFS. *Other than that we can't help. Sorry.*

Continued overleaf ➡

STONKING – ALMOST!

I've got a problem with the (otherwise stonking) *AF* Coverdisk of *Cinema4D*. I have an A1200, Kickstart 3.0, 250Mb hard drive and Apollo 1220 with 4Mb added. My problem is with the effects: melt, explode, etc. I just can't get them to work. When I enter them via the timeline window, the other features such as size and material have the action bars with blank dots representing (I presume) recorded programs but with effects I can only add the bar and no effect actually takes place. Is this a matter of the floppy version being cut down for space, or am I doing something wrong? Also, I am thinking of getting a CD-ROM. Do I need WB 3.1 or do they have drivers with them?

Barry Metcalfe
Salford



***Cinema 4D*'s special effects don't show up in the editor – you have to render to see the results.**

No, there's nothing wrong with your copy of Cinema4D. *Just remember that the wonderful special effects do not appear in the editor window, only in the final render. Set up the effects, render the frames and then you'll be able to see them. Use a wireframe setting to speed things up.*

Yes, Workbench 3.1 includes the file system for reading CD-ROMs. However, there are plenty of others about in the Public Domain, on Aminet and even on the Coverdisk from time to time.

CD-RW OK?

I am at present looking at buying a CD read/write and I wish for some of your words of wisdom to guide me in the right direction.

1. Are all CD read/writes compatible with an A1200? (If not, which do I look out for?)

2. As all CD read/writes I have come across have been PC-compatible, am I going to have a problem in finding a driver for it?

3. Is there any specific software I need to obtain to use it and if so, where do I find it?

4. As I only have a bog standard A1200 + 540Mb hard drive. In your opinion, what upgrades do I need in order to use the CD read/write quickly and effectively?

5. Am I going mad or is there never enough cupboard space?

P. M. Burrows

Hmmm. Are you sure that you really need one? For most people a CD-R will probably be sufficient – okay you can't use the disc again, but it is cheaper, and ideal for backups. Anyway…

***1&2.** No, in very much the same way that not all CD-Rs are compatible. Basically, it depends on a compatible driver having been written for the particular software you are using. They will still almost certainly support the drive for writing, but not for erasing. Check the software's documentation. You will find almost all CD-Rs are standard SCSI devices that work off any Amiga SCSI interface. Having an A1200 isn't a problem as long as you have a SCSI interface.*

***3.** The version of* MasterISO *which is nearing completion will probably have the most full CD-R/W support, but other software will also support CD-R/W*

***4.** You neglect to say what SCSI interface you have. If you do not yet have one, I would recommend getting one as part of an accelerator upgrade. The accelerator will speed the production of ISO images. You will also need more memory – at least 8Mb if you don't want to run into problems with large CDs or big buffers.*

***5.** Dr Who never found this the case.*



CD-ROMs, CD-Rs, CD-R/Ws. Is there no end to the variety of drives for roughly five inch discs? The answer is patently "no".

IF YOU HAVE A QUERY...

At *Amiga Format* we aim to answer as many questions as possible. Unlike some magazines, we don't just concentrate on our areas of expertise – we take on all your problems (as long as an Amiga is involved). Here are a few tips on sending in questions:



Graeme Sandiford

- **Be concise.**
- **Detail the problem as best as you can.**
- **Describe the events that caused the problem.**
- **Give full details of your equipment.**
- **Make sure your question is relevant and wouldn't be more easily solved by contacting the dealer from whom you bought the goods.**

Bear these points in mind and fill in, photocopy, or copy the form below as best you can. Unfortunately we cannot reply personally.

Send your letters to Workbench, *Amiga Format*, 30 Monmouth Street, Bath, Avon BA1 2BW.

Your Amiga:

○ A500 ○ A500 Plus ○ A600
○ A1000 ○ A1200 ○ A1500
○ A2000 ○ A3000 ○ A4000

Kickstart version

○ 1.2 ○ 1.3 ○ 2.x ○ 3.x

Hard Disk: .... **Mb**

Manufacturer: ....

Extra RAM fitted – type, size, (Mb) and manufacturer:

....

....

Details of other hardware:

....

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Amiga Mice

Replacement Mice .... ~~£6.95~~ £4.95
MegaMouse 400 .... ~~£12.95~~ £9.45
MegaMouse Plus (3 Button) .... ~~£14.95~~ £9.95
New Black Mouse .... ~~£9.95~~ £7.95
Pen Mouse £12.95
(ideal for CAD)



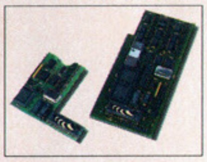
Ram Boards

RAM CARDS A1200

A1200 with clock and 4Mb *(not upgradeable)* £49
A1200 with clock 33MHz FPU and 4Mb .... ~~£64~~ £59
A1200 with clock and 8Mb £65
A1200 with clock, 33MHz FPU and 8Mb .... ~~£80~~ £75
33MHz FPU inc. crystal £15
Free Directory opus V4.12 and Chaos pack (4 games on disks) with every Ram card

Controllers

Catweasel for A1200 – allows you to connect High Density Disk Drive fits on to clock adapter leaving IDE interface free for our 4 way buffered interface £59.00
Catweasel for A4000 .... £59.00
Buddha IDE Controller for A1500/2000/4000 .... £55.00
AT-Bus 2008 IDE controller £69.00
Catweasel plus Buddha for A1500/2000/4000 .... £79.00
Oktagon 2008/4008 SCSI Controller £99.00
Multiface III serial and parallel I/O card £79.00
TD-1200 PCMCIA controller for IDE CD ROM Drive £69.00



New GI-Quatro Buffered Interface for A1200

Buffered interface for A1200 with full IDEFIX'97 software allows you to connect 4 ATAPI devices to A1200 Comes with two 40 pin IDE cables and one 44 pin IDE cable **£59.95**
"Amiga Health Warning"
Fear not with our Buffered Interface

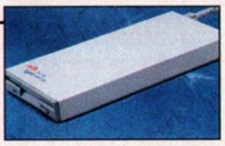
AlfaQuatro Interface

Specially made hardware and software. Allows 4 ATAPI devices, ie, 2 IDE hard disk & 2 IDE CD Rom to Amiga 4000 internal IDE controller £59.00

Joysticks & Joypads

Amiga Joysticks £9.95
Amiga Joypads £9.95

Floppy Drives



External Floppy Drive for all Amigas £39.95

Internal Floppy Drive A500/500+ .... ~~£28.00~~ £25.00
Internal Floppy Drive A600/1200 .... ~~£28.00~~ £25.00
Internal Floppy Drive A1500/2000 .... ~~£35.00~~ £28.00
Internal Floppy Drive for Tower user with face plate .... ~~£35.00~~ £28.00

IDE Hard Drives for A1500/2000

Hard Drives plus Buddha IDE Controller 1.2 Gig .... ~~£189.00~~ £169.00 *Starbuy*
Hard Drives plus Buddha IDE Controller 2.1 Gig .... ~~£230.00~~ £189.00 *Starbuy*

Winner of Gold Format Award in Amiga Format February 1997

Best pricing on CD ROM Drives & Hard Drives.

We can supply CD ROM solutions for ALL Amigas from A500 to A4000. Four top titles free: Nick Faldo's Championship Golf; Syndicate; Pinball Fantasies & The Chaos Engine.

All our External IDE CD ROM Drives have built in power supplies (they do not draw power from your Amiga)
Different options to connect CD ROM drives to A600 or A1200

a) Use Internal IDE port with AlfaDuo if you have 2.5" Hard Drive (will be with full IDEFIX software).
b) Use Internal IDE port with Alfa-Quatro interface if you have 3.5" Hard Drive (will be with full IDEFIX software).
c) PCMCIA external interface option available.



All CD ROM drives have play CD facility.

	External A600/A1200	Internal A1500/A2000	External* A500/A500+	Internal A4000
Quad speed CD ROM for	~~£149.00~~ £139.00	~~£119.00~~ £109.00	~~£129.00~~ £119.00	~~£109.00~~ £99.00
Eight speed CD ROM for	~~£169.00~~ £159.00	~~£139.00~~ £129.00	~~£149.00~~ £139.00	~~£129.00~~ £119.00
12 Speed CD ROM for	~~£179.00~~ £169.00	~~£149.00~~ £139.00	N/A	~~£139.00~~ £129.00
16 Speed CD ROM for	~~£189.00~~ £179.00	~~£159.00~~ £149.00	N/A	~~£149.00~~ £139.00

*(for A500/A500+ Alfapower hard drive controller and Hard Drive is required). A1500/A2000 supplied with IDE controller & software. A4000 supplied with AlfaQuatro interface & Full IDEFIX software.

IDE 2.5" Hard Drives for A600/1200

All 2.5" Hard drives come formatted and installed with Workbench, including IDE Cable, screws, software and instructions supplied. *(please check for availability)*

60Mb .... ~~£59~~ £49
80Mb .... ~~£69~~ £59
120Mb .... ~~£79~~ £69
170Mb .... ~~£85~~ £69 *Starbuy*
250Mb .... ~~£89~~ £85
340Mb .... ~~£109~~ £99
420Mb .... ~~£119~~ £109
540Mb .... ~~£129~~ £119
810Mb .... ~~£149~~ £129 *Starbuy*

Star Buy

IDE 3.5" Hard Drives for A1200/4000

1.2Gig .... ~~£135~~ £110
1.7Gig .... ~~£155~~ £129
2.1Gig .... ~~£175~~ £139
3.2Gig .... ~~£200~~ £179
3.8Gig .... ~~£229~~ £199
*5.0Gig .... ~~£329~~ £279

We will partition and format Hard drives and install Workbench. *5.0Gig will fit and work on Amiga Computers contrary to warnings given
(Amiga Format Gold Award winner August 1997)

Memory

4Mb Simms .... ~~£20~~ £15
8Mb Simms .... ~~£30~~ £25
16Mb Simms .... ~~£65~~ £55
32Mb Simms .... ~~£145~~ £115

Zip Rams *(suitable for A3000, Alfapower, At-Bus 2008 & Oktagons)* every 2Mb £40.00

Accelerator for A1200

Viper MKV 1230 50MHz plus SCSI interface
with 4Mb £159.00
with 8Mb £179.00
with 16Mb £199.00
Viper MKIV 42MHz + 4Mb *(not upgradable)* .... ~~£80.00~~ £70.00
Free Amiga black mouse with every accelerator

Accelerator for A600

Viper A630 40MHz + 4Mb *(not upgradable)* £110.00
Viper A630 40MHz + 8Mb *(not upgradable)* £120.00
free FPU with above



Miscellaneous Products

44pin 3 connector cable £5.00
44pin 2 connector cable £3.00
40pin 3 connector cable 90cm £5.00
AlfaDuo 44pin to 40pin Interface & IDE cables £20.00
AlfaQuatro 3x40pin Interface & IDE cables £39.95
DD floppy disks (50) *including multicoloured disk labels* £13.00
DD floppy disks (100) *including multicoloured disk labels* £25.00
3.5" Hard Drive Kit for A600/1200 *+ Install software* £15.00
Diskbox to hold 10 discs £1.00
Animal Jungle design and Dinosaur design £2.00
Optical Mouse Mat £5.00
2 in 1 Scanner/Mouse Pad *Can be used as a memo pad* £3.00
Amiga Power Supply 4.5 amp .... ~~£29.95~~ £15.00
Plain Wristrest £2.00
GI-Quatro buffered interface with cables but no software £39.00
A500+ 1Mb ram card £20.00
A600+ 1Mb ram card £20.00
ROM Chip for A500 or A600 V2.05 .... £19.00

CDROM Drives (Bare) For internal fitting.
Requires interface and software
IDE 4speed £49.00
IDE 8speed £59.00
IDE 12speed £79.00
IDE 16speed £79.00

Super value Software pack:
DpaintIV + Digita Wordworth3 and Print manager + Dennis and Oscar Games £15.00
Chaos pack AGA: 4 great games **(on disks)** (The Chaos Engine, Syndicate, Pinball Fantasies, and Nick Faldos Golf). All Amiga Format Gold winners £5.00
Weird Science **3D Images** on CD £5.00
Weird Science **1078 Weird Images** on CD £5.00
LSD compendium volume 3 over 600mb of PD on CD £5.00

Audio Cables for CD ROM's
Stereo jack (3.5mm) plug to 2 x RCA phono plugs 1.2 meter long £5.00
Audio mixer 2 x RCA phono plugs to 2 x RCA phono plugs/sockets 1.8 meter long £6.00
2x RCA phono plugs to 2x RCA phono plugs 1.2 meter long £5.00

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suitable for all scanners and direct scanning support for hand scanners by Migraph, Golden Image, AlfaData and Power .... ~~£49.00~~ £10.00

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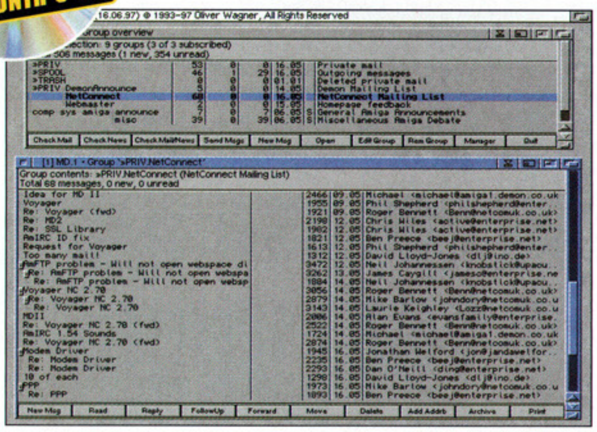
Unit 65, Hallmark Trading Estate, Fourth Way, Wembley, Middx HA9 0LB
Sales Hotline No: 0181 900 9291 Fax: 0181 900 9281
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Our standard terms and conditions apply – available on request. We do not supply on a trial basis.



Amiga.net

ON THIS MONTH'S CD AFCD20:-In_the_Mag-/Amiga.net

Dave Cusick gets 40 or 50 emails a day. His secret weapon? – mailing lists...



Microdot is ideal for viewing messages from any mailing lists you subscribe to, thanks to its threaded organisation system.

Those of you who click daily on "Check New Mail" and yelp at the number of new messages on there probably subscribe to a mailing list. Either that, or you receive a ludicrous amount of junk mail every day. I subscribe to a few mailing lists myself and regularly post responses in some of them.

But, beyond being able to brag to other people about the amount of email they receive, why would anyone want to join a mailing list? There are several possible answers to this question because they can perform a variety of roles. Many Amiga mailing lists tend to be concerned with program development, and allow users to give feedback to programmers and find out about new features as they are implemented. Such lists are called open lists, to which anyone can post. On the other hand, some lists are closed, with one person simply sending out news or information to a group of other users. For instance, I subscribe to a closed Manchester United news list, the daily News.Com bulletin and the Demon Operational Status report, as well as to the open NetConnect list.

There are plenty of Amiga-related mailing lists around on the Internet, as a quick search of the Amiga Web Directory will confirm...



MAKE SOME CHOICES

Subscribing to a closed mailing list can be a great way of keeping abreast of developments in software or services. On the PC and Mac, companies such as Pointcast, Marimba and Microsoft talk about push technology as being the way forward, but at the end of the day the sort of Web-page shovelling they are referring to provides nothing more than the average closed email mailing list does, and at a far greater cost in terms of both hardware required and bandwidth consumed.

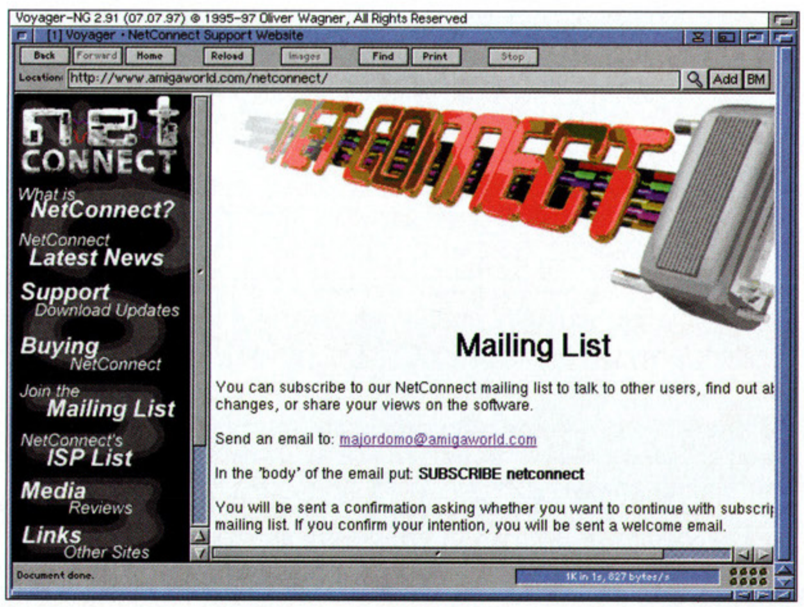
If you subscribe to open lists you will probably find email programs which adopt a threaded message organisation system, more helpful than those which do not, like *YAM*. This is because discussions on several different topics tend to be going on between several groups of subscribers on any given day, and downloading twenty postings on a variety of subjects and then trying to focus on what has been said in a particular conversation isn't easy – like PCs and Macs, human brains cannot multitask terribly effectively. The main attraction of open mailing lists is that they provide the same sort of helpful forum that the newsgroups do, but without the flame wars; and thankfully, postings from lamers who claim that "everyone in this group is sad and the Amiga is crap", are completely nonexistent.

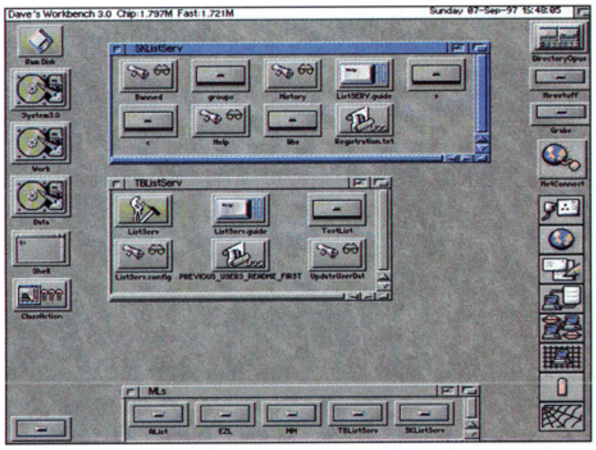
Subscribing to a mailing list generally involves sending an email message to a certain address with the word "Subscribe" in the subject line or sometimes in the body text, and

WEB SITES

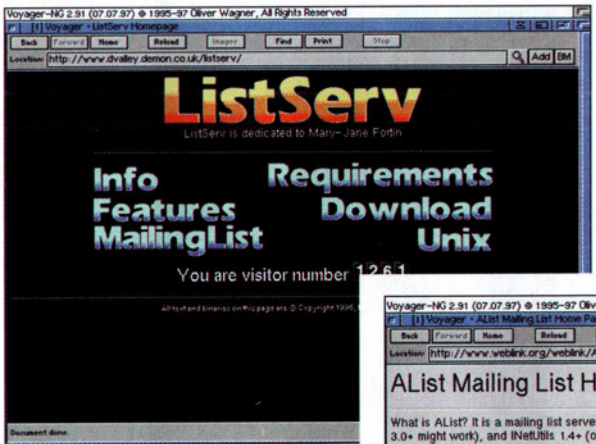
Tom Bampton's Listserv homepage:
http://www.dvalley.demon.co.uk/listserv/
AList homepage:
http://www.weblink.org/weblink/AList.html

...and the NetConnect list is just one of them.

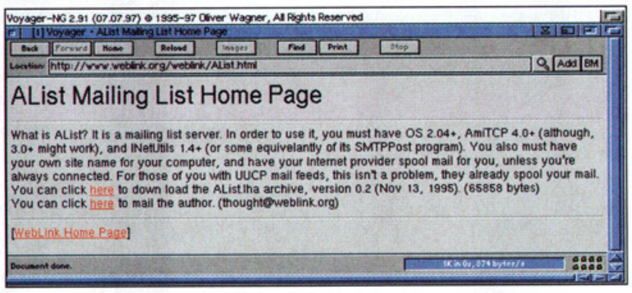




If you're after a fully-featured, easily-configured mailing list manager, the two *ListServ* programs are probably the only options you need consider.



When it's finished, Tom Bampton's *ListServ* will be able to do everything you could ask of a mailing list manager...



...and the Web site is ever so slightly more informative than the *AList* one.

unsubscribing is essentially the same procedure in reverse, although different lists work in slightly different ways, so subscription instructions on web pages should be read carefully.

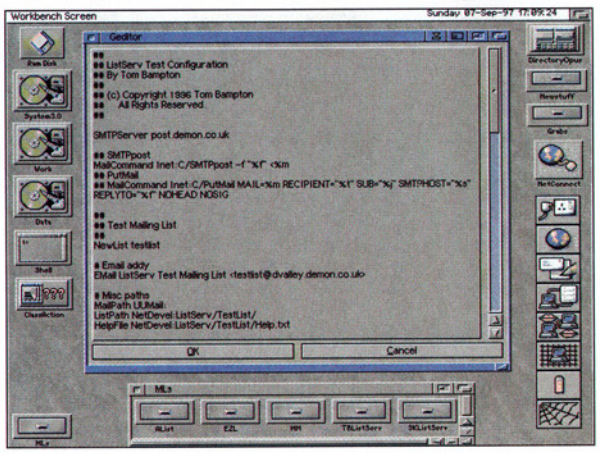
If subscribing to an existing mailing list isn't enough for you, there are now several programs available via Aminet which enable you to set up your own lists. As with FTP and web-serving software, these programs tend to work more effectively if you have a permanent Internet connection, at least if you plan on running an open list. This is because if you only rarely log on then you'll have to collect a whole host of postings to the list and send them out to subscribers, who will then have to wait several days for responses to any messages they posted, making the whole list a rather sporadic affair. That said, there are some folk with permanent connections who are prepared to host mailing lists for other people; for instance, the NetConnect mailing list is hosted by Amigaworld (http://www.amigaworld.com/). On the other hand, if you only plan on running a closed list, perhaps to keep users of some software you've created up to date with new developments, you certainly won't need a permanent connection. So far as I am aware there are no particular security issues that you have to consider if you're going to run a mailing list from your machine – at least, none that you don't need to consider when using your machine as any kind of Internet server, or when connecting generally.

SOFT TOUCH

Let's take a look at some of the software you can use to run your mailing list. I ought to emphasise at this point that because mailing list management software isn't particularly straightforward to set up, Net novices are not advised to try it. Some of the software available has been ported from Unix systems, and unless you know your way around *AmiTCP* and can tell your SMTP daemon from your elbow then you might well mess up your TCP configuration.

As always, the best place to start is at the nearest Aminet mirror site. First, the stuff to avoid: unless you've got a good command of German then there's not a great deal of point downloading Maik Schreiber's *MailList 2.1b*, because you won't be able to make head or tail of the installation instructions. It's also not worth bothering with *MailingList Master* from Schrôdinger's Cat, because it's an extremely buggy beta which has since been superseded by *EZ-List 1.0*.

EZ-List itself is a straightforward, no-frills list manager, which relies on the SMTPd daemon found in the InetUtils archive (also available on Aminet). There's no support for POP3 mailing list management – and while SMTP is the logical system to use if you've got a permanent Internet connection, this means users who currently have their mail software set up to use POP3 will have to play around with a lot of settings in order to successfully install *EZ-List*. And don't forget, although some ISPs (such as Demon) allow customers to use either protocol, others don't offer – and if this is the case with your provider, *EZ-List* won't suit.



As with all programs of its kind, *ListServ* requires you to play around with a few settings to get it up and running.

AMINET ARCHIVES

Simons/Kirchwitz's Listserv:
comm/mail/ListSERV-v4.lha
Tom Bampton's Listserv:
comm/net/ListServBeta2.lha
InetUtils1.4:
comm/tcp/IU-14-amitcp.lha
EZList:
comm/tcp/ezl1.0.lha
AList:
comm/mail/AList.lha

Jesse McClusky's *AList* is similarly dependent on various programs from the InetUtils archive. Unfortunately though, a great many features that *AList* is supposed to support remain unimplemented, and the documentation is a little sparse.

SET YOURSELF UP

That second criticism could also be levelled at Peter Simons and Andreas Kirchwitz's versatile *ListServ*, because while the AmigaGuide included in the archive discusses setting up everything from straightforward lists to extremely secure PGP-encrypted lists, it occasionally doesn't do so in quite as much detail as it might have done. *ListServ* is Shareware, with a registration fee of US$20 or 30DM, and the Aminet distribution version has some features disabled. This is understandable considering how powerful the program is; it's far more configurable than *EZ-List* or *AList*, and it supports FAQs, universally-appended signatures and banlists in addition to the usual day-to-day commands.

There is another program also called *ListServ* available, written by Tom Bampton, which has an equally impressive features list but is only at the beta stage of development, and some features have still to be fully implemented. Again, the software is highly configurable and very flexible, and isn't too hard to set up. The documentation explains installation on both POP3 and SMTP-based mail systems in detail. If you're thinking seriously about setting up your own mailing list, either of the two *ListServ* programs will fit the bill nicely.

CONTACT POINT

I can be reached with comments, suggestions and feedback at dave@dcus.demon.co.uk, or via my Web site at http://www.dcus.demon.co.uk/

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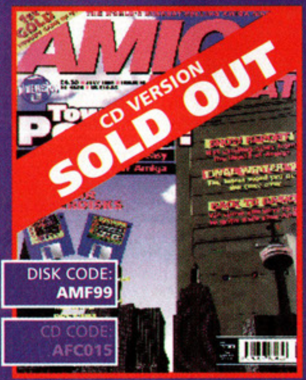
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CREATIVE



We've had quite a bit of mail about our Beginners series in the last few months, with some people saying it was great they now understood the machine which they had got second hand, with or without a full set of manuals, and a few people complaining that there were no new Amiga users, and it was a waste of space. Well, to the latter I say you don't have to read it. Even if you take those two pages out of your magazine and throw them away, you'll find that you still have more pages than any other Amiga magazine.

Amazingly, some of these same people have been saying that we don't give them enough technical information. I don't know where else you can find tutorials on running NetBSD, or programming applications in *MUI*. If you have any suggestions, we'd be glad to hear them...

Nick Veitch

SEND IT IN!

WE NEED YOUR INPUT.

Is there something that you would like to see covered in one of the current tutorial series? Why not send your suggestion to us at the magazine. Here are some things you might like to think about:

AREXX
Commodore's excellent decision to include ARexx with Workbench was only matched by their stupidity in not documenting it properly. If you are having trouble why not write to us with a description of what you are trying to do.

PAINT PACKAGES
Unsure of how to get a particular effect? Do you think there must be an easier way? Our experts could help.

DRAWSTUDIO
Is there something you desperately want to be able to draw? Drop us a line! Contact us at:

AF Creative • 30 Monmouth Street
Bath • Somerset BA1 2BW
Or email: amformat@futurenet.co.uk
putting "Creative" in the subject line.

The indispensable guide to getting the most out of your software

DrawStudio

It's the best structured drawing package that the Amiga has ever seen so we've invited Larry Hickmott to show you how to use it.

Contents

DrawStudio, if you don't already know, is an illustration program for the Amiga. That description encompasses quite a few areas of image creation and to start off this series on *DrawStudio,* we'll look at a subject that requires no drawing talent at all – making text. This choice of subject comes about because many people can't draw, but that doesn't mean they can't create eye catching imagery with *DrawStudio* for use in video, web pages or desktop publishing.

Unlike programs such as *Personal Paint* and *Deluxe Paint,* objects created within *DrawStudio,* including text, are structured. This means that instead of text being made up of a series of pixels on the page, text is created using PostScript fonts. Without getting too technical, this means that words created on the page can be scaled, up or down, without any loss of quality and filled with a variety of things like bitmaps and colours.

MANY FORMS

Text on a page can be created in a number of forms. When you make a text object, it can be edited, filled with various fills, resized and the font altered to suit your needs. When you apply a fill to a text object, you will also find that the fill is applied to the whole piece of text instead of each individual character. Another attribute of a text object is that line fills cannot be applied because the objects have no line weight.

Which leads us to the second form of text, that of a bezier object. This means that instead of being a text object, where the font for the text can be altered, once text has been converted to a bezier object, using the "Object/Convert to Bezier " menu item, it is now a drawing.

> ...many people can't draw, but that doesn't mean they can't create eye-catching imagery with DrawStudio...

Pieces of text converted to a bezier object have a number of characteristics.



You might not be able to draw but that doesn't mean that you can't create some stunning images with *DrawStudio*.

Firstly, you can no longer change the font, which makes it useful for taking a text object in your project and loading it into another copy of *DrawStudio* that doesn't have your fonts installed. By converting it to a bezier object, the image will remain the same.

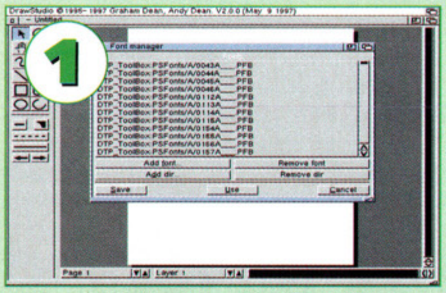
BEZIER OBJECTS

Such text can also have a line weight or thickness applied to it which means the fill and line fill can be different, giving you unlimited possibilities for creative effects. Fills for bezier objects that were text, are applied to each character. If this isn't what you want, you can go back to having the fill applied to the whole text by selecting the object and choosing "Make Compound Object" from the Bezier menu.

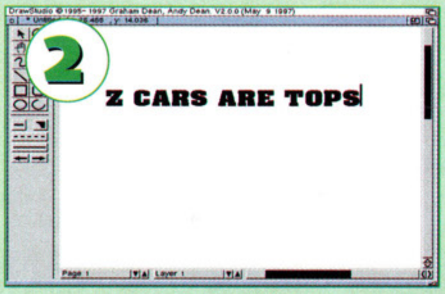
The last category of text objects that we'll look at now is the bitmap. The bitmap has many advantages. Firstly, you can take a piece of text that has been converted to a bitmap and then use it to fill the outline version of the text, or the other objects on your page. Secondly, you can export the bitmap, blur it in a program like *Personal Paint* or *ImageStudio* and then paste it back into *DrawStudio,* to be combined with the outline version as a drop shadow, for example.

There is much more to be learnt about using text in *DrawStudio.* Having the ability to edit, move, stretch and warp text takes a while to get used to, especially if you're used to the way text is created in a paint package. But this tutorial should be more than enough to get you started on the creative curve and you'll soon be producing spectacular titles for your video, DTP and web projects.

TUTORIAL



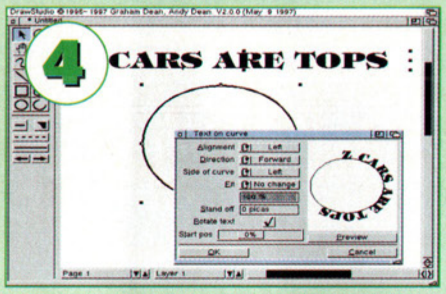
Before we start, make sure you have installed the fonts you want for this tutorial. Choose the "Text/Font Manager" menu item and install either a single font or a whole directory of IBM-style Type 1 PostScript fonts. Click on Save if you want to continue to use this font in *DrawStudio* or click Use if you only require this font for the current session.



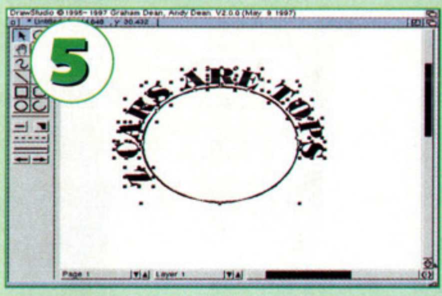
Click on the "A" symbol in the Toolbox and stamp the pointer on the page. Now type out your text. A single line will do. If you want more during other sessions, use the return key to create a new line.



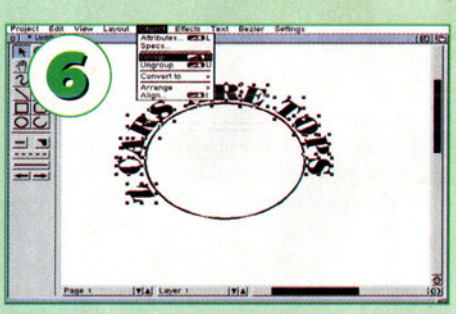
Make sure the Pointer tool is selected and choose the Font item from the Text menu. Select the name of the font and also the size you require. The latter isn't so important as text can be scaled using the mouse.



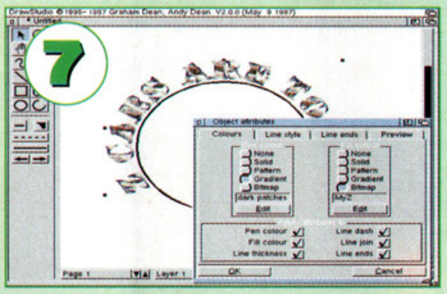
Using the Oval tool, draw a circle. Hold down the shift key to make the shape a perfect circle. With the latter still selected, hold down the shift key and click on the text. Choose the "Text on a curve" item from the Text menu.



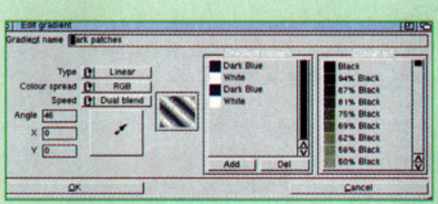
In the "Text on a curve" panel, make sure Alignment is set to Centre and that the "Stand Off" gadget has a small figure, like 2mm, so that the text sits away from the circle. Click on Preview to see how it looks with the attributes you have set.



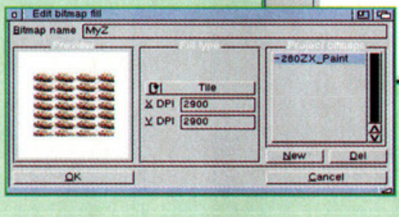
Hold down the Shift key and click on the circle to de-select it. The text which is now made up of individual letters, can be grouped by choosing Group from the Object menu. Also make sure to convert the text to a bezier object so we can apply a line weight to the text in the next step. Convert it by choosing Object/Convert to Bezier.



The text can now be given two different fills, one for the shape and another for the line. Do this by choosing Object Attributes (Object menu). I have chosen a gradient for the line fill to give the lettering a metallic 3D look. The bitmap was a scan of a car and the "Fill Type" set to Tile. I chose a very high DPI setting for Tile because the bitmap was quite large.



The shiny appearance to the text was created using a gradient like this applied to the text line weight.



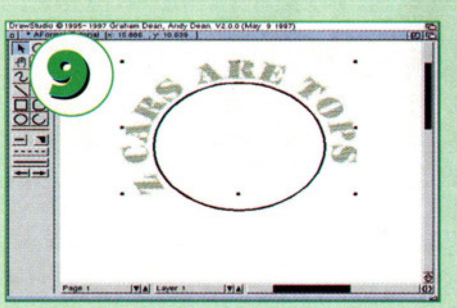
Bitmap fills can be tiled within an object or made to fill the entire object. Notice how you can also change the resolution of the bitmap fill and that you get a preview too.



A close up of how the text looks with the line and object fill applied. *DrawStudio* enables you to zoom in on selected objects at very high resolutions.



To give the text a shadow, make sure the text is selected and press "Right Amiga-T" to create a clone. With the clone still selected, click on the Fill Colour pop-up at the base of the toolbox and give the copy a plain fill. For line fill, choose None.



The trick here is to export the copy as a bitmap, blur it in a program like *ImageStudio* or *Personal Paint* and then paste it back into *DrawStudio* and send it to the back.



The circle in the centre can now be filled and then the whole image selected and exported as a 24-bit bitmap to be used on a web page, in your favourite word processor or as part of a video title in a program like *Scala*.

Magic User Interface

Dr. Karl Bellve reveals how easy it is to create simple MUI programs.

AFCD20:-In_the_Mag-/MUI

ON THIS MONTH'S CD

Contents

MUI is one of the easiest GUI systems available. But many people are still overwhelmed at the sources for the supplied demo programs in the MUI developer archive. By the time you've read this, you too should be able to code a simple MUI program, using just a few lines.

But before you begin you need to have the proper tools installed. I will assume that you have already got your favourite C compiler and you'll also have to make sure that you have installed the appropriate MUI includes.

The most powerful tools that you can use are debugging utilities. We recommend *Enforcer*, *Mungwall*, *Poolwatch* and *Sushi*. *Enforcer* tracks illegal read/writes to low, and out of bound, memory areas. *Mungwall* and *Poolwatch* track allocation and freeing of memory. All these programs direct their output to the serial port. *Sushi* is then used to redirect the output to a console. I would avoid outputting any debugging utilities directly to your hard drive, but a recoverable RAM drive is fine.

Use the following script to start the debugging programs:

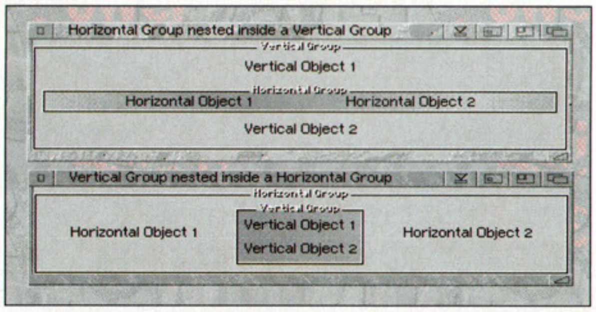
```
RUN >NIL: sc:c/MUNGWALL
SHOWHUNK
RUN >NIL: sc:c/ENFORCER RAWIO…
   …VERBOSE STACKLINES=10
RUN >NIL: sc:c/Poolwatch
execute s:newsushi
```

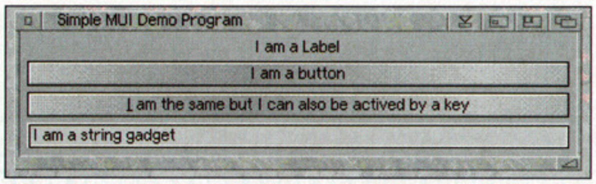
Just change the directory to wherever you have the programs installed. You can call this script using *ToolManager* just before you start to program. Diagnosing a programming error caught by these tools is fairly simple but you do need to read their manuals. Quickly, output from *Enforcer* will look like the following when running *LawBreaker* (an example bad program in the *Enforcer* archive):

```
WORD-WRITE to 00000000  data=0000  PC:
07189524 USP:  071A6B10 SR: 0004 SW:
04C1  (U0)(-)(-)  TCB: 0766C438 Data:
DDDD0000 DDDD1111 DDDD2222 DDDD3333
071894D2 DDDD5555 DDDD6666 DDDD7777
Addr: AAAA0000 AAAA1111 AAAA2222
AAAA3333 AAAA4444 071894D2 07000810 ----
---- Stck: 00000000 00F9573A 00001000
0766CE1C BDBDBDBD BDBDBDBD BDBDBDBD
BDBDBDBD Stck: BDBDBDBD BDBDBDBD
BDBDBDBD BDBDBDBD 071E77D8 0000F5E8
DEADBEEF DEADBEEF Stck: DEADBEEF
DEADBEEF DEADBEEF DEADBEEF DEADBEEF
DEADBEEF DEADBEEF DEADBEEF ---->
07189524 - "LawBreaker"  Hunk 0000
Offset 00000074
```

LawBreaker tried to write to memory area 00000000 (WORD-WRITE to 00000000). This is usually caused by programs that ignore a NULL pointer. A NULL pointer is a pointer that has not been assigned a valid memory address. Using an invalid pointer is the most common programming mistake someone can make. You can actually find which line caused the illegal write by looking at the Offset value (Offset 00000074). The *Enforcer* archive includes a program called *Findhit* that takes this offset value, and your program name, and finds that line.

By nesting groups within groups, it is possible to create almost any kind of interface you can imagine.





Different elements of the interface perform different functions, and have to be addressed in different ways.

Assuming that you compiled your program with DEBUG=LINES, which includes additional information into your executable so *Findhit* can find the appropriate line.

Once you have your debugging tools installed and setup, you can start to make a MUI program. MUI is based on BOOPSI, the Basic Object Oriented Programming System for Intuition. More information about BOOPSI may be obtained from the ROM Kernel Reference Manuals.

MUI is composed of many classes, organised in a hierarchical structure, where objects inherit all methods and attributes from their parent classes. A Button object is part of the Area class so it will inherit all the attributes and methods from there. Read the MUI dev.guide on the available classes to see how it is organised, but basically, you need to have one Application Object with one or more WindowObjects.

Each WindowObject may have a single Area Class object, like a button or a Group Class which can contain many objects (ie, several buttons). Usually you will always want more than one object inside a window. A Group Object, which is a Group Class, may contain many objects.

Enough of the theory, lets start to code an example program.

Making a MUI program is rather simple – there are basically three parts. Part one is the allocation of the GUI, part two is the communication of the elements in that GUI with the main program or with other elements of the GUI. Part three is disposing of the GUI before exiting the program. The

following is a very simple program that uses MUI. We will discuss parts one and three here, but part two will be discussed in more detail next month. Here we'll discover how to set up a MUI interface and how to dispose of it.

MUI EXAMPLE 1

All the examples can be found on the *AFCD*. This is a very basic MUI program that doesn't do anything other than put an interface with several MUI objects. Here are its components. The file called "demo.h" is included in the MUI developers archive and is a good start for every MUI program. It has all the necessary includes, library pointers and sets the stack size. All MUI programs need a stack size of at least 8192 bytes.

The function init(), found in demo.h, opens the main MUI library, named muimaster.library as of this writing. However, use the defined word MUIMASTER_NAME. This will contain the name of the MUI library. You may also define MUIMASTER_VMIN as the minimum version of MUIMASTER_NAME that you need. If init() fails, then your program will gracefully exit.

The next part of the program defines the interface and this needs careful planning. Read the file mui.h located in the developer archive in mui:developer/c/include /libraries/. There are many macros available for easy creation of MUI objects here – read the autodocs for each.

When you build a MUI interface, you need to define default information for your application. This includes the title of your program, version number, copyright, etc. This information will be available to the user of your program and should be as descriptive as possible.

Next you need to define each window. In the example, (MUI_Example1 on the CD) we have defined an Application object called App.app. Within my Application Object, I have defined a single window, a WindowObject, called App.window. This window has been given several attributes. MUIA_Window_ ID defines an ID for a window. This allows MUI to save window size and position information. Each window should have a defined and unique ID and a title, MUIA_Window_ Title, that will appear on the title bar. There are many other attributes that windows can have as shown in the MUI_Window.doc autodoc in the developer archive.

THE TREES

FIG. 1

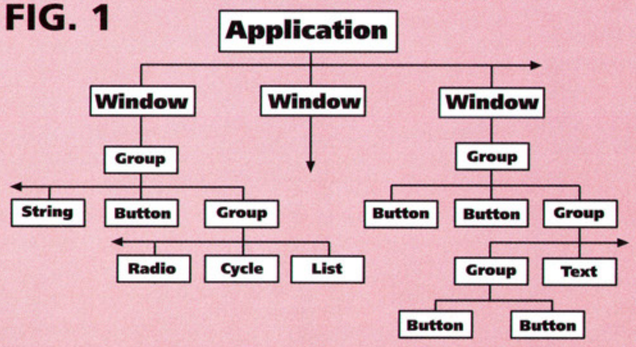
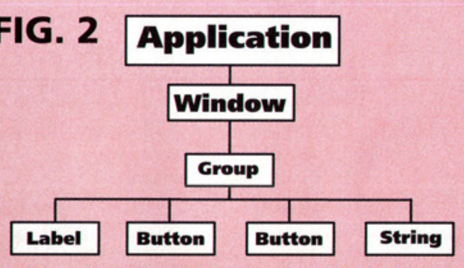
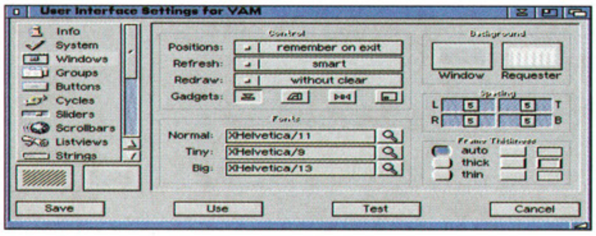


FIG. 2



A MUI application consists of an object tree. At the top of this tree is an Application object from the Application class. This object handles the communication for the application including user input, ARexx commands and commodity messages. As we work down the application tree, an application object has one or more window objects, derived from the window class. Window objects are in charge of opening, closing, moving, resizing and refreshing. Each window object needs at least one object from the area class. Objects in the area class are just rectangular regions with their own charateristics. A window object has only one object from the area class. Usually this is a group object from the group class. A group object may contain many objects of the area class, as shown in Figure 1.

Figure 2 discusses an abstract MUI application tree. This is for the MUI_Example1. It has one application object that only contains a single window object. Inside this window is one group object from the group class, a subclass of the area class. Within the group object are four gadgets that belong to the area class. MUI application trees can get very complicated but all have the same basic principles of one application object (application class), with one or more window objects (window class) with each window object having one object that may also contain more objects (subclasses from the area class).



The result of all this effort is a program whose interface is highly customisable by the end user.

As said previously, each window may have either one child of an area class, like a button or a radio gadget, or a group object. Here, I used a vertical group, VGroup. Each group may contain many children. Inside the VGroup in the example, I have four children. Since it is a vertical group, each child object will be laid out vertically in the window. I have just chosen to use a label object using the macro Label("text"). Additionally, I used two macros based on button objects, one will respond to a keyboard key and the other will not. I suggest that you should have all your objects respond to the keyboard. And the last object I used was a string object called by the String ("text", length) macro. As you can see, this is very simple but it is a start to understanding how to design a simple MUI interface. The complexity increases as you add more objects and you start to use more group objects.

MUI_Example2 (on the CD) shows simple use of group objects to direct the layout of a MUI window. Window 1 starts out with a vertical group, VGroup, which includes one child, then a horizontal group which contains two children, then has one more child. In Window 1, the layout is defined in the way the groups are positioned. The opposite can be seen in Window 2 – starting with a horizontal group followed by one object then a vertical group which contains two objects, then finally another object. Nesting multiple groups within each other, means you can create any possible GUI configuration that you can think of.

Many users like to use the keyboard to navigate an interface and they also like to use the keyboard to cycle from one object to another. The correct attribute for this is: MUIA_CycleChain, an attribute of the Area class. As has been said, all children of a class inherit the attributes of the parent class. So all buttons, labels and strings would inherit the attribute MUIA_Cycle Chain.

Another useful attribute for all your objects is MUIA_ShortHelp. If this is set for an object, a small help bubble will pop up explaining its purpose.

The next part of the tutorial will try to explain communication between different objects. This is a very powerful feature of MUI and there are two examples in MUI_Example1. First connect the close window button with quitting the program. Tell MUI to return the ID MUIV_Application_ ReturnID_ Quit, which is a special value in MUI. When you've seen this value, as shown in the main loop of the program, have the program exit.

The second object communication in the example connects the string object with the label object. Every time the user hits return in the string gadget, it updates the label object. This is direct object communication. Once set up you no longer have to worry about this and I'll explain it in more detail next month.

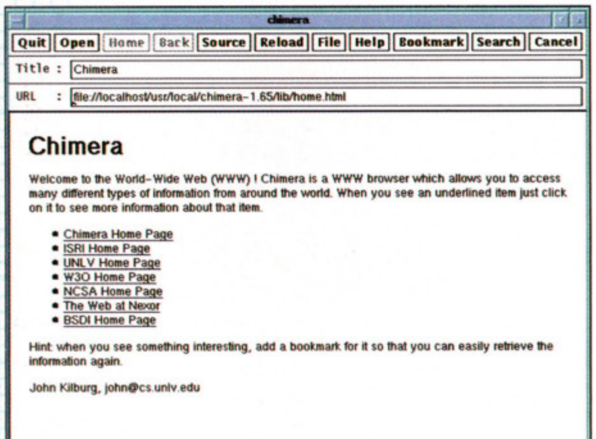
The last step in all MUI programs is the disposal of the interface. You may dispose of the children individually or the parent, which will also cause all the children to be disposed. Use the function fail(), found in demo.h to close your interface. If you need more help, join the MUI mailing list. Email mui-request@sunsite.informatik.rwth-aachen.de with the subject 'subscribe'.

NetBSD

ON THIS MONTH'S CD

AFCD20:-In_the_Mag-/NetBSD

Chris Livermore and 101 applications for you to use with NetBSD.



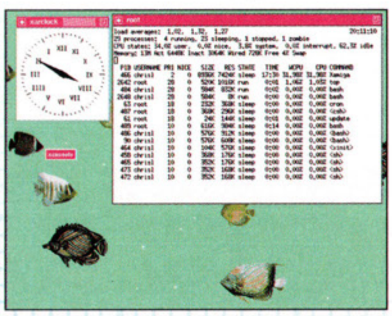
***Chimera* is one of the four web browsers included on this month's CD.**

Contents

No matter how good a computer's hardware or operating system is, it's not much use if there are no applications available for it. Currently our NetBSD installation falls into this category. We have a multiuser, multitasking operating system and neat graphical interface, but unfortunately no really useful applications so far.

However, this month we are going to change that by providing you with a selection of some of the most popular Unix programs available. These range from word processors and text editors to graphics packages, performance meters and email clients.

Unix has never been a popular desktop operating system, instead residing on mainframes and servers. Those of you expecting to be able to run programs like *Microsoft Word* and *Adobe Photoshop* will be disappointed but there is a remarkable amount of software available for desktop Unix machines such as the Amiga.



Tired of the same old background picture? Then why not have fish swimming around your desktop?

SHARE AND SHARE ALIKE

Unix has a thriving public domain community, so the vast library of free software available makes it a desirable operating system. All applications on the CD are free or Shareware.

Due to the nature of Unix its public domain philosophy is slightly different to that of most other operating systems. There are many hardware platforms with different CPUs, running a variety of Unix variants, both Freeware versions such as Linux and NetBSD, and commercial offerings like Solaris or HP/UX, so it's impossible to produce an application that will run on every single machine. The majority of authors simply make the source code available and leave it to the individual to produce an executable for their Unix variation.

"Unix has a thriving Public Domain community so the free software... makes it a desirable operating system."

This has two notable side effects. Firstly it makes software installation more difficult as you must first compile the program before installing it. Fortunately most authors provide "make scripts". These are the Unix equivalent of the Amiga's Install scripts and tell the program things like which compiler to use and where to put the finished application.

The second side effect is more positive and has resulted in some of the best programs available for any platform. As the source code and not a compiled product is distributed, it becomes possible for anyone to make changes or add functionality to an application. Whereas with Amiga Shareware you would have to contact the author and then wait for a new version, Unix allows anyone with programming knowledge (usually C/C++) to make the changes themselves. This new version is then either sent back to the author or released into the public domain for other people to use.

Many programs which started out as a small project by one person have become huge applications supported and contributed to by hundreds of people. One such example is the web server, *Apache,* which is the most

APPLICATIONS

Image Manipulation
• ImageMagick • xanim • xfig gnuplot • xv • xli

Text Editing
TeX • XEmacs • Emacs • Ghostscript Ghostview • Pico

WWW
Chimera • Arena • Phoenix • lynx xhtml

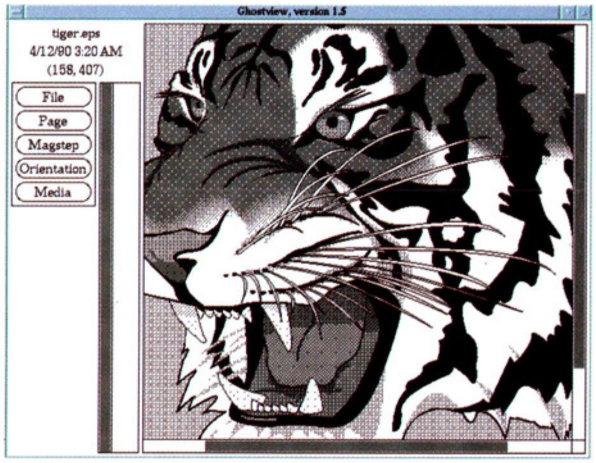
Games
xboing • xdigger • xjewel • xkobo

Programming
xwpe

Email
Elm • Pine

File Managers
xfm • Moxfm

Misc
UAE • Xarclock • xfishtank • top



Ghostscript is a PostScript viewer. It can be used for displaying documentation as well as Indian wildlife.

popular web server in the world, running approximately 45 per cent of all sites on the Internet (source Netcraft September 1997 survey – http://www.netcraft.co.uk/Survey).

Of course there are also commercial programs, such as *Netscape Navigator,* that the source code is not available for, so although versions of these applications exist for selected Unix platforms, mostly PC and Sun Sparc, it is unlikely that an Amiga version will ever see the light of day.

DON'T PANIC

Because compiling each application can be a lengthy and frustrating process, if things don't go smoothly, most of the applications on this month's CD have already been compiled for Amiga NetBSD. All you need to do is unpack the archive and run the install script.

Each archive is supplied as a GZipped TAR file. These can be identified by their .tar.gz suffix. To extract them you can either use the method described last month in the X11 installation guide, which is also included on this month's CD as part of the AmigaSoc UK website, or you can instruct tar to gunzip the file as it extracts it. The majority of the files extract in to /usr/local and all expect to be extracted in the root (/) filesystem.

Further details are included on the CD. As each application installs itself into /usr/local/bin you may wish to add this to your path, (details are on the CD).

PROGRAMS ON THE CD

One of the things you may have noticed last month is that *X Windows* does not include a file manager. You still have to manipulate files using the command line. Included on the CD this month are two file managers.

XFM or the *X File Manager* provides a window-based environment for file manipulation. It's split into two windows, the first displaying the current directory in either Icon, Text or Tree format, the second containing icons for a selection of applications – although these must be present on your machine for you to use them. *XFM* enables you to create and delete files or directorys without using a command line again. But many hardened Unix users find that once they are familiar with all the commands the shell is easier and faster to use. Because *XFM* was not originally written for the Amiga there appears to be a small bug with the display. Unless you are running *TWM,* some of the icons may not be displayed.

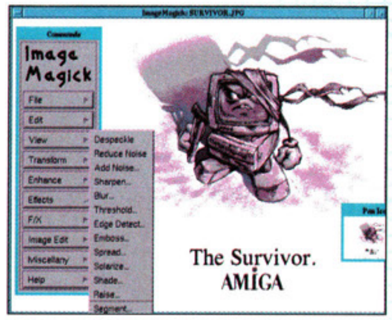
> **Many powerful applications have been written to take advantage of the processing power of large mainframes.**

MoxFM is a motif-based file manger. It functions almost identically to *XFM* but does not seem to be as fussy about which windows manager it runs under.

One of Unix's strong points is image manipulation. Many powerful applications have been written to take advantage of the processing power of large mainframes , many of which run just as well under NetBSD. On the CD you'll find packages for displaying, editing, and viewing images and a structured drawing package.

As you would expect from a predominantly text-based OS there are literally hundreds of text editors available for Unix. These range from simple, 'no frills' editors to hugely complicated programs like LaTex which can be used to convert text files to different formats. Those of you struggling to get to grips with *Vi* should make installing *Pico* a priority.

Unix has a wide range of web browsers and you'll find three on the CD – *Chimera, Phoenix* and *Arena.* There's an HTML editor and *Lynx,* a text-only browser that doesn't require the overhead of X to run. Other applications include email clients, *Elm* and *Pine, LhA,* numerous games and *UAE* – the Amiga emulator which can be great for running old games and programs that won't run under anything above WB1.3.



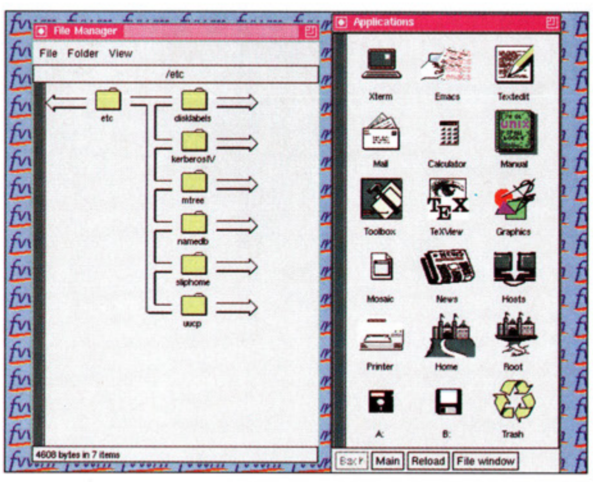
Unix has many powerful image manipulation programs. *ImageMagick* is not only powerful, but it looks good too.

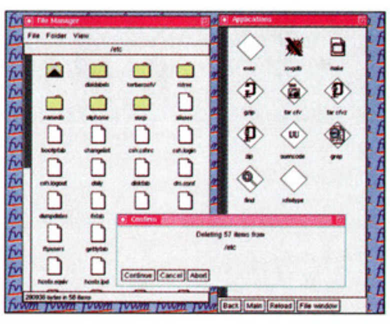


It may not look much, but *kobo* is a fast and furious shoot-em-up.

GLOSSARY

.cshrc – file that is executed every time you log in.
path – list of directories that NetBSD will search for an application.
make – a Unix application that aids in the compilation of other applications from their source code.
makefile – a list of instructions telling *make* exactly what to do.
source code – the uncompiled program listing.
Gzip – a type of compression similar to LhA or LZX used by many Unixes.
tar – a method of archiving many files into a single one. tar stands for Tape ARchive as it was originally intended for copying files to magnetic tape.
PostScript – language used to describe the contents of a page for printing or other purposes.
Motif – The standard SUN window manager.





XFM is a point-and-click file manager. Although not quite as flexible as the command line, it provides an easy way to move files and launch applications. It can also be incredibly dangerous – the diagram on the left shows me just about to wipe out my system folder.

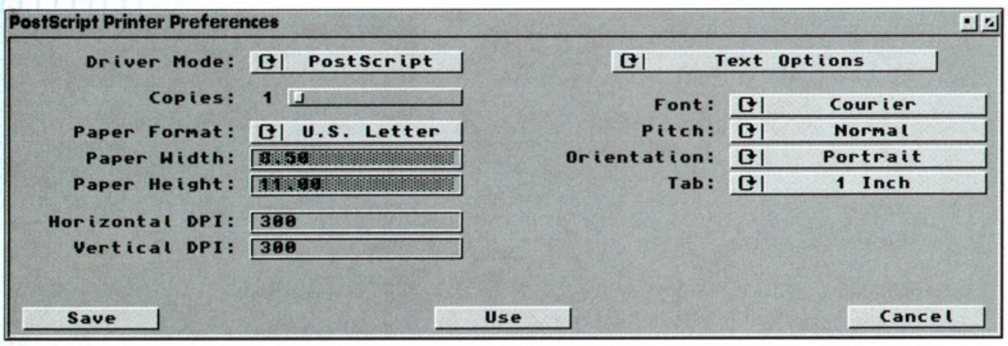
Beginners Guide

Robert Polding tells you how to get printed proof of your computing prowess...

For any business that you intend doing on your Amiga, you'll need a printer. Whether it be school homework or typing a newsletter for your company, you'll want to output what you see on the screen onto paper.

There are many different printers available, and most will work fine providing you have the correct driver on your Amiga. A driver is what allows the computer to communicate with the printer, and there are several included on the 'Storage' disk that comes with Workbench. These can be adequate but buying a program such as *TurboPrint* (for about £45) gives you better drivers and more control over how the printout looks. If you have a printer that doesn't have a driver included with Workbench and you can't afford the dedicated program option, PD libraries have disks full of drivers.

Contents



It looks daunting but the computer's just offering you a few choices about how you want your printed page to look.

There are four main types of printer available and you must choose between them carefully, keeping in mind what you need it for and how large your budget is.

The cheapest type of printer is the dot-matrix which retails at about £100 for 24-pin colour, but offers poor quality in comparison to other models. The greatest problem with these printers is that they produce 'banding' (lines across the page) and make large areas of colour look bad. But if you just need a printer for doing your homework and have a limited budget (I made it through school with one!) they are a good choice.

If you can afford it, I can really recommend the next leap in print quality. Bubblejet printers are possibly the best low-end printers. You can now get hold of one for about £160 (mono) or £180 (colour). These are the bottom-end models yet, with suitable software, still produce good quality output. If you can fork out for a 720 dots per inch (DPI) model then the quality will be almost equal to that of a laser printer. Better yet, they are almost completely silent – a huge advantage over dot matrix models which are very noisy in comparison.

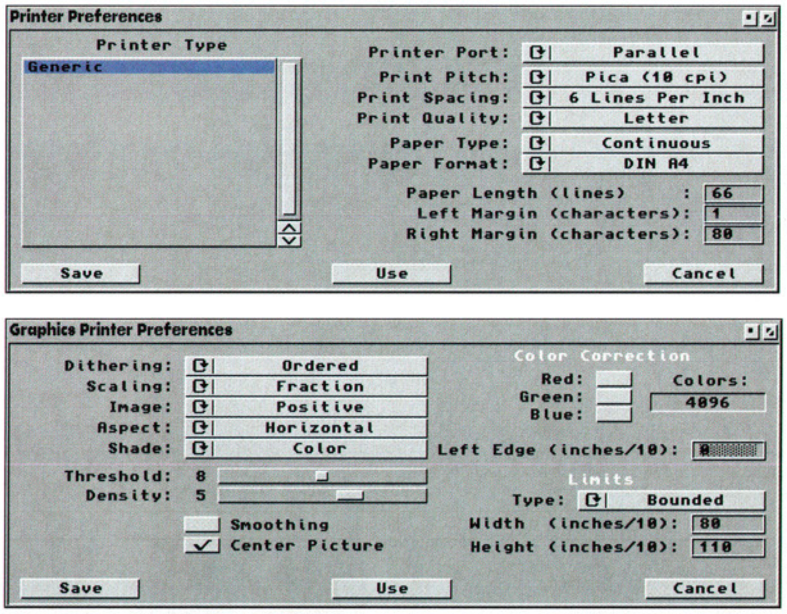
> The laser printer is the big daddy of printers, producing a very high mono print quality without banding.

The laser printer is the big daddy of printers, producing a very high mono print quality without banding, but unfortunately it costs the earth! If you want to produce a professional-looking newsletter or document and need it to be perfect, this will do the job. These printers are usually incredibly fast (6-8 pages per minute [PPM]) and come with many extras such as on-board memory and in-built professional fonts. They are also very quiet with the only noise tending to be from the fans they use to keep cool, and the roller movement as paper is pushed through the mechanism. The price means, however, that they are specialised tools, and in all honesty, a decent bubblejet is usually sufficient.

COMPATIBILITY

There are many high street shops that stock a variety of printers. They don't, however, cater specifically for the Amiga and may not know whether certain printers are compatible. If you want to be safe, look at the adverts in this issue, as the companies advertising are targeting the Amiga and their printers will definitely work.

Once you've chosen a printer, setting up your Amiga can be quite a slog. The printer drivers are contained in the devs/printers drawer of your system disk, and if you want to use a driver it will have to be put in there. The main setup is from the *Printer* program in your 'Prefs' drawer. Select your printer from the 'Printer Type' list, and then, by default, that will be the chosen printer. Save the settings, and (hopefully) you should be able to print



There's an opportunity for some flash graphic alteration with these printer preferences, and you don't have to be arty to do it...

from your programs. Different programs often have their own printing systems (such as *Wordworth*) and their manual will explain how to use them.

There are two types of printout you will use: text and graphic, the latter being the most commonly used today, due to the variety of styles available. To set up your printer for graphics there is a preferences program called '*PrinterGFX*', this enables you to choose the shade (black and white, grey or colour), density (how many times the printer applies the ink), and how the image looks. This offers fairly limited control and has a very uninspiring interface, one of the reasons for getting a program such as *TurboPrint*.

QUALITY CONTROL

Printing optimization programs are becoming more popular as they improve quality, speed and even help reduce problems such as banding. *TurboPrint 5* and *Studio 2* are the best and most popular programs. These will not only work in the background with your software, but also come with dedicated programs for printing pictures and many extra drivers. As you can see from the screenshots they are also equipped with far more intelligent interfaces, enabling you to see what the different options do and not just listing them.

If you have just bought a printer and still can't get it to work there are several possible solutions. Firstly if you have a dot-matrix and can't find a driver try the '*EpsonX*' (9-pin) and '*EpsonQ*' (24-pin) drivers. If you still don't have any luck try ringing the company that produced the printer and ask if they can send a driver. There is some software for specific printers, such as the Canon *Printstudio*, available freely or from the company itself, that will allow the printer to be used to its full potential.

Another problem may come from within the program you are using. Carefully check the printer setup within the software, as you sometimes have to tell the program which driver to use and how you want the printout to look. If your printer works fine, yet the quality is poor, try using special paper for your type of printer or replacing the ink cartridge. Cartridges and paper are available from printer stores).

> **... a program called PrinterGFX enables you to choose the shade... density... and how the image looks.**

If your printer is a 'Postscript' printer ("A High-Resolution printer that can accept text and graphics in the Postscript page description language" [Workbench manual]) then there is a special preferences program that allows you to change the way the information is sent, ie, the resolution, scaling, dimensions, etc. You'll know if you have a Postscript printer from its manual, and they are usually only the top-end models anyway, so we won't go into too much detail. For more information on setting up Postscript and any other printers, refer to chapter nine of your Workbench manual.

PRINTING PORTS

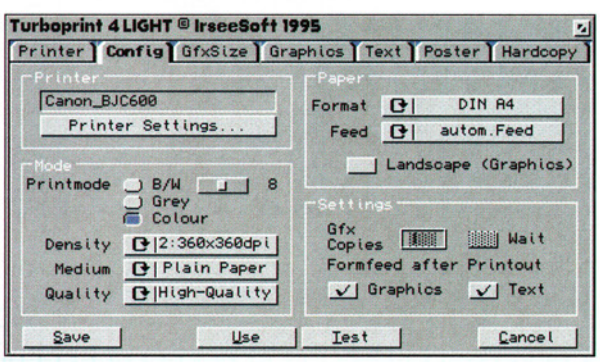
Finally, to the printer port. The name of the printer device is PRT: and by copying or sending lines of files to this assign they will be printed. As an example, open a Shell window and type the line:

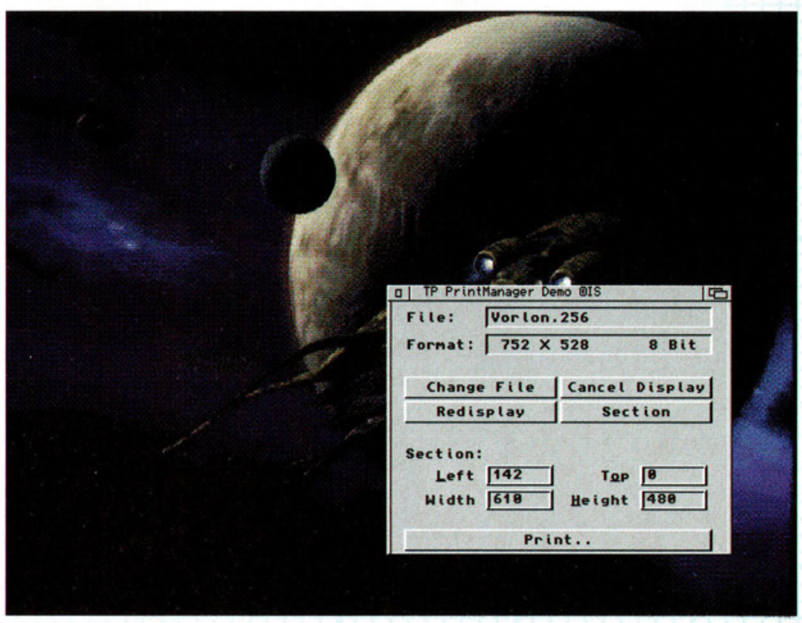
```
echo "This will be printed" >PRT:
```

If you have a printer attached the line should be printed out. If for any reason you want to bypass the Workbench driver and send information directly to the printer you can access the ports themselves by using the PAR: (Parallel) or SER: (Serial) devices. However, this shouldn't be required and PRT: is the device you should usually use.

If this seems like technical nonsense to you, don't worry – you can use a printer without understanding exactly how it works. It isn't as hard as it sounds either, especially if you buy one that is supported (something to ask the supplier when make your purchase).

Next month we'll be taking a delve into the world of the Shell, a way of operating your Amiga system using typed words. Don't miss the next instalment and don't work too hard!





Maximise your printing power with a program like *PrintManager* (above). *Turboprint* (left) does a similar job and also provides you with a much improved interface.

DOpus 5.5

It's the last chapter in our look at *DOpus*, so it's time for Ben Vost to tell you the bits he forgot.

The main thing to bear in mind is that *DOpus* has had three upgrades since I started this tutorial and many of you will probably already have *DOpus Magellan v5.65* by now (I hope). For those that haven't upgraded and are wondering what all the fuss is about, perhaps I would do well to run down some of the handy new features in the latest version:

Better listers: inline editing of filenames, new pop-up menu functions and the ability to use *DOpus* commands on icon mode listers.

Start menus: If you really want your machine to look even more like Windows95, you can create your own start buttons.

Desktop Folder: Alternatively, if you'd rather your Amiga was actually a Mac, the desktop folder will help.

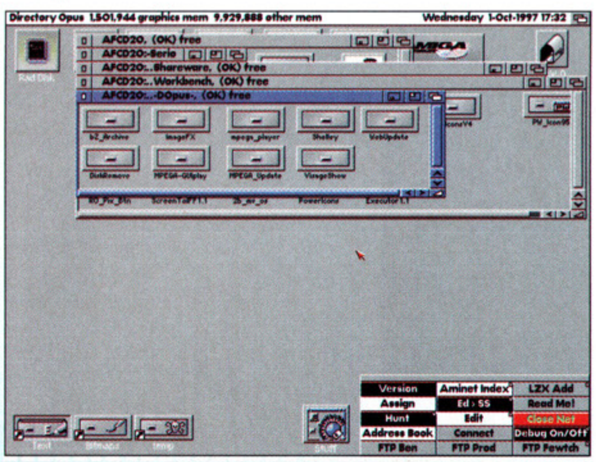
Icons: With *Magellan* you can specify areas of your *DOpus* screen where new icons should appear, if, say, you put a floppy in the drive. You can also split long filenames onto two lines and icons are now copied byte for byte.

Popup menus: Now with super duper shadowing...

Improved FTP: *DOpus Magellan*'s FTP tools are now up to five times faster and come complete with a GUI address book and directory caching facilities.

Integrated *NewIcons* support

Better compatibility with third party add-ons such as MCP, *MUI* and datatypes.



Magellan is now ideal for testing our CD and writing the pages on it because you can select icons and hit RAmiga-c to copy their names and paths, just like in name mode.

Contents

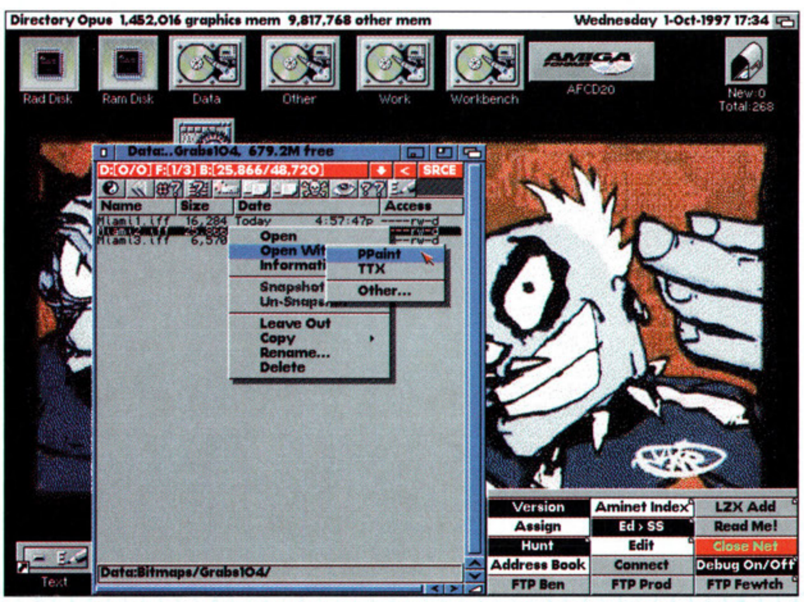
More comprehensive filetyping, internal and ARexx commands.

There's a lot more, but we don't have the space. If you'd like to better find out what we thought of *Magellan*, you can read the review in *AF99* on page 62.

> **If you are lucky enough to have access to the Internet you can get involved in the Directory Opus mailing list.**

Of course, people have different priorities when it comes to using *DOpus* but for me, the most important addition is the upgraded efficiency of *DOpus* while using it in icon mode. At home, I no longer even bother with Workbench although *DOpus* still doesn't do a really full emulation of icon positioning. Even so, now that you can use commands on icons (hitting the Del key to delete a file is so intuitive), it makes a DOpusbench an even nicer proposition.

Also useful to me in the latest version is the improved FTP module that gives you a proper address book and works much faster than the old 5.5 version. But that's not all. Although I don't make any use of the Start buttons or Desktop features of *DOpus Magellan* (why would I want to turn my machine into a Windoze clone or a Mac?), I do



One of the nifty new features in Magellan, the RMB pop-up menus come in very handy.

DOPUS AND THE INTERNET

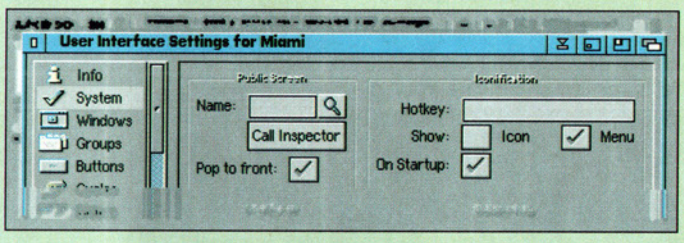
One of the questions I got asked while writing this *DOpus* tutorial was how to integrate your Internet stuff into *DOpus* when running as a Workbench replacement. Here is one way, if you use Miami and YAM:

1 Create a script file which you can put in your WBStartup drawer called *Miami*. This should simply contain the words: Miami:Miami Add an icon to the file and make sure that the 's' protection bit is turned on and you have iconx as the default tool. Also put in DONOTWAIT as a tooltype so that you don't get an annoying "Program Miami has not yet returned blah blah" message every time you boot.

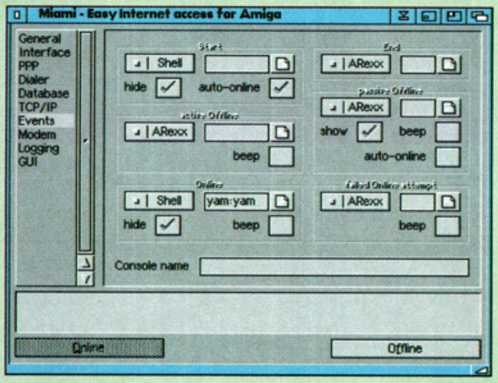
2 When *Miami* is running, load up *MUI* prefs for it and go to the System page. In the top right corner you'll see settings for iconification. I have menu turned on and icon turned off, but you can choose as you will between the two. Make sure that "On Startup" is ticked. Now, when you boot your machine, *Miami* will be silently started. The only evidence that it has been run will be an icon or a new menu entry.

3 If you want to have your email package started at the same time (and you have a registered version of Miami), you can go to the Events page in Miami and put YAM:YAM in the Start entry (with the cycle gadget set to shell).

If you are using YAM, you might want to visit the MUI settings for that program and get it to start iconified, with no icon showing. The reason for this is that YAM has its own notification icon showing you how much email you have – so you don't really need another.



Call up *MUI* Settings for *Miami* and go to the System page and change the iconification settings.



4 Now, onto the *DOpus* part of things. When we talked about nested button banks, I mentioned that I have two, one for net operations and a standard one. You can put the Connect button on your net buttons if you've followed what I've done, or just on its own. This script makes use of *Miami's* handy online detection mechanism which means that you'll only need one button to go online or off. To start with you'll need to make a new script. Call this connect.rx and put it in the Miami: drawer. It goes like this:

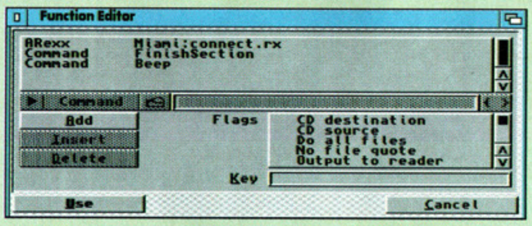
```
/*Miami online-offline script by Nick Veitch*/
OPTIONS RESULTS
ADDRESS MIAMI.1
ISONLINE
IF RC = 0 THEN ONLINE
ELSE OFFLINE
ENDIF
```

See? Easy. That's all you need. This ARexx script gets *Miami* to check whether it's online or not and then do the opposite.

5 To put this into *DOpus*, create a new button, called "Connect", and put the following in the functions list:

```
ARexx      Miami:connect.rx
Command    FinishSection
Command    Beep
```

You don't need to have any of the flags in the bottom left ticked. The reason we have the beep command in there is to tell you that you've got online or off since there won't be any other visual feedback. If you want to switch it for a sound sample you would be more than welcome, but remember, this same script gets called for going online or off so there's no point having a sample that says "You are now online" if it will be played for both.



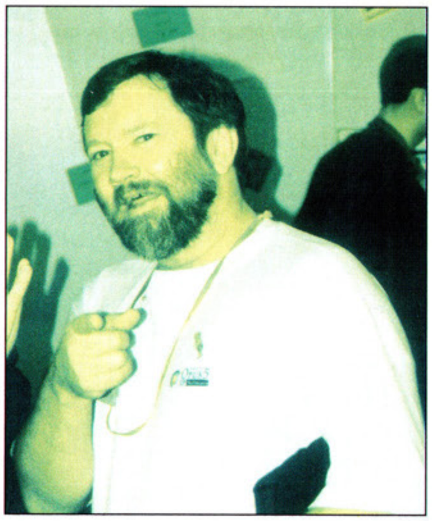
Here are the commands for the button called "Connect" that you'll set up in DOpus.

If you're not using YAM, you can start any other email package this way. Ours is set to start YAM when we go online, but that's because we're on a network.

use the RMB file function to open files using different programs, and the inline editing of filenames, dates, protection bits and comments is also very useful. To make use of this all you need to do is click with the left mouse button over a filename and leave the button held down until you get a text cursor which you can then use to edit all the fields by moving it left and right through the entry in the lister.

DOpus Magellan is an evolutionary product. If you are lucky enough to have access to the Internet from your machine, you can get involved in the *Directory Opus* mailing list which is the fastest way to bring any suggestions or comments to either Greg Perry or Jon Potter, both of whom frequent the list. The address for subscribing is: listserv@lss.com.au and you should put: subscribe dopus5 <Your real name here> to get on the list. Find out more by visiting the GPSoft website at: http://www.gpsoft.com.au. With all the talk currently doing the rounds about the promised Workbench 3.5 and 4.0 it might be that *DOpus* in its current incarnation might become obsolete. We spoke to Greg Perry at GP Software and he had this to say:

Is this the face of the criminal mastermind behind dastardly *DOpus*? Contact Interpol if you think it could be.



AF: Amiga Inc. (AI) are talking about a new version of Workbench. Have you been speaking to anyone at Amiga Inc about it and how it will affect the future of *DOpus*?

GP: It is a little early to give a definitive answer on this since we have not seen any details of the direction AI will take. I have spoken to AI a while ago and supplied them with several copies of DOpus *but so far I have had no response or comments. We would be happy to license some of our ideas and technology to them if this would assist in revitalising the Amiga, but until they give us some specific details of what they have in mind we can only wait. Maybe we shall find out something at Cologne this year.*

AF: What plans do you have for the short term future of *Directory Opus*?

GP: We still have confidence in the Amiga market and are actively developing Directory Opus and responding to user feedback. Small changes and compatibility issues are being addressed by free updates via our web site and on AmiNet (a new version is currently in beta test and will be available by November), and we have some designs for the next major version for later next year, subject to developments at AI.

We are also currently investigating P.OS and Phase 5's PPC systems with a desire to produce versions of DOpus which run on these systems.



MailBag

Send your letters to: Letters To The Editor • Amiga Format • 30 Monmouth Street • Bath • Somerset BA1 2BW or email to:amformat@futurenet.co.uk – putting 'Mailbag' in the subject line.

MONKEYING AROUND

Please help! Earlier this year I got hold of, and completed, *The Secret of Monkey Island.* Naturally, I want to play the sequel but have been trying ever since to find a copy. I have phoned many stockists and mail-order companies but none of them could help. I understand that the game is no longer in production but surely there must be one or two unsold copies lying around somewhere in the country?

Leigh Walker
Essex

The game is no longer made! I mean really, the life of a game, on any platform, is short. Monkey Island 2 *was released years ago. If you desperately want it, the only thing I can suggest is that you place an ad in our reader's ads section of the magazine.*



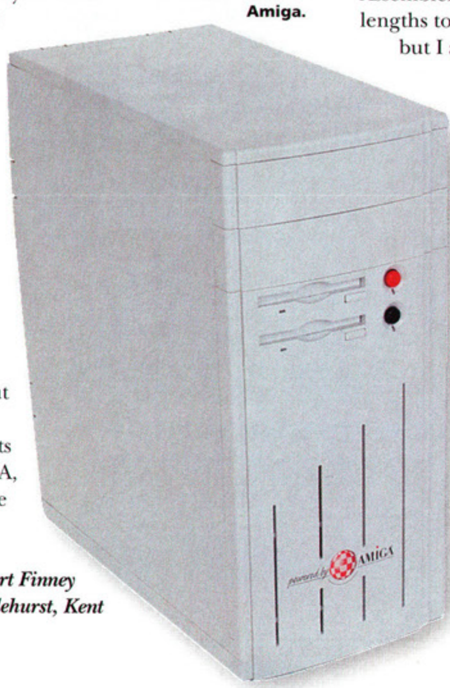
***Monkey Island* redefined the way people thought of graphical adventures. Ohh, now if only I could remember where the map was.**

AN INTERESTING CASE

I am writing to find out your views on one area of the Amiga that's really bothering me. There have been improvements in almost every area, but what about new casings for our beloved machine? I don't feel comfortable re-fitting my machine in a PC tower case. Isn't there one company that can produce one which doesn't cost the earth and half of Mars? If they want to corner a market niche, they should find a way to produce a case that comes equipped with a 'fool's guide to fitting the Amiga in', and also, if possible, a power supply (plus wires) to fit all those added extras like speakers, CD-ROMs and monitors. Please find someone like Eyetech or Golden Image to look into this area. Anyone else feel like this, or is it just me?

What do you think about the thought of running the graphics boards and chip sets that the PC uses (VGA, SVGA, etc)? Would this improve the graphics capabilities of the Amiga?

Robert Finney
Chislehurst, Kent



It's the MicroniK tower system – specifically designed to rehouse your Amiga.

Well, to a certain extent, this is exactly what the MicroniK tower is, so your prayers have already been answered. Unfortunately, manufacturing a specific case for the Amiga is going to cost more than a generic PC case, because of the numbers involved.

As for graphics cards, the chips inside PC graphics cards are for the most part, the same as the ones you find in Amiga graphics cards, such as the CyberVision and Picasso. There isn't really much point getting a graphics card just to do crappy old VGA anyway.

MISTAKEN

I have read all your Seriously Amiga Assembler tutorials and they go to great lengths to explain gadgets and menus, but I always thought the main reason for learning Assembler was so that you could program fast arcade games that are not possible to program in any other language. There's never any mention of a sprite or a bob in your tutorials. One went as far as the "DrawImage" library call which is only a "simplesprite structure" and a couple more calls away from being a sprite.

The only books I could find were Abacus Amiga Machine Language, Mastering Amiga Assembler and the Abacus Amiga Graphics Inside & Out (which tells you everything, except half of it is in Amiga Basic and half of it in "C"). Just mention of high-speed sprites, joystick control and a *DPaint* backdrop would make it all seem worthwhile.

On a different subject, your excellent CDs still run "NOFASTMEM" in the start-up sequence. Do all users know how to get the fast RAM back again? I haven't seen any mention of it in *AF.*

Raymond Mallard
Derbyshire

Well, perhaps you could refresh my memory, because I don't actually remember offhand when we actually did an Assembler series in Seriously Amiga. The reason is because few people code in Assembler, because it tends to be very machine and processor specific. Sections of code may be written in Assembler, but the vast majority of software (for any platform) is written in C and compiled – even a lot of games. If we have loads of letters asking for a series on Assembler then we may consider running one.

On a different subject, they don't. And as we have said countless times before, unless you are running on a CD^{32} *with no hard drive, there is no point in booting up from the CD, in fact, there are lots of other reasons not to do it too.*

I'M SORRY BUT

I have seen Pentium PCs, etc for very cheap prices, for example, a P166 plus big hard drive, blah blah blah blah, 603e+ enhanced '040 , blah blah blah rant, 16Mb of SIMM RAM and reasonable graphics card, blah blah get a PC cheaper than for an equivalent Amiga, blah blah MHz waffle rant MIPs tedious waffle MMX. PlayStation is only 80 MIPs, against blah blah SpecFP95 etc.

Name and address withheld

If all you want to do is run software really really fast, because for a lot of people, especially home users, it is really important to be able to generate Hi-Res mandelbrot images at 25 frames per second, then why don't you just go out and buy something really fast like an SGI. A Sparc I is faster than any PC, so that must make the PC rubbish...

Continued overleaf ➡

STUCK

I was inspired by your advice to convert to a tower system. The problem with these systems though, is that Amigas no longer look like Amigas. Perhaps your magazine would like to solve this crisis by giving away some stickers of Amiga/Gateway/PPC/68k logos?

Anthony Preston

Hmm. It is certainly something we have considered before. Does anyone else think this would be a good idea? Please write in and let us know.



Hmm, it's as big as the Empire State, but will people know what's inside without a nice sticker.

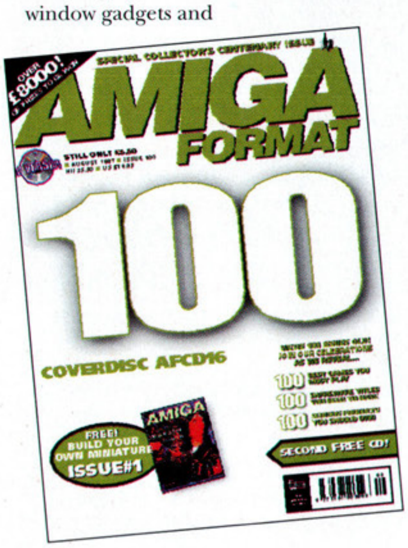
100 NOT OUT

AF100 was a brilliant edition – well done – but I do have a few questions for you. First of all, what program do you use to get those great window effects, as seen on page 83? Those indented close window gadgets and raised scroll arrows are excellent. Have you put this program on a CD?

Secondly, what program did you use to get the "Windows95" style on page 111? Is this on a previous CD, too?

Mr T. Coates
Bristol

I suggest you equip yourself with Magic Workbench *(Coverdisk on issue 100) and* VisualPrefs, *which is available as Shareware and has appeared on a previous subs disk.*



It looked good, it felt good, it was good.

WORMING

I have just seen Andy Davidson – *Worms* developer – on a news program, showing his forthcoming *Worms 2*. It looks great but the problem is, he was showing it on a PC and as far as I can make out, an Amiga version isn't planned, even though it looks like the Amiga could handle the game easily.

This is a real loss as he developed the original *Worms* on his Amiga. I am sure he would be able to get many sales if it was released for AGA Amigas around Christmas time. Surely a big name like *Worms 2* would make even the tightest Amiga owner open their wallet. Do you think it would be possible to contact Andy or his publishing house to see if an Amiga version is possible as I want to buy it and undoubtedly many of your readers would also.

Karl Clarke
Staffs

No, an Amiga version isn't planned. I'm afraid I can't answer for Andy Davidson as to why that is so, but I expect it is because nobody would want to publish it. I well know he developed Worms *on the Amiga, with the* Blitz Basic *Coverdisk which we gave away (*AF52*). Team 17 have already decided that they are not going to be producing any more Amiga games.*



Hasn't everyone had enough *Worms* yet?

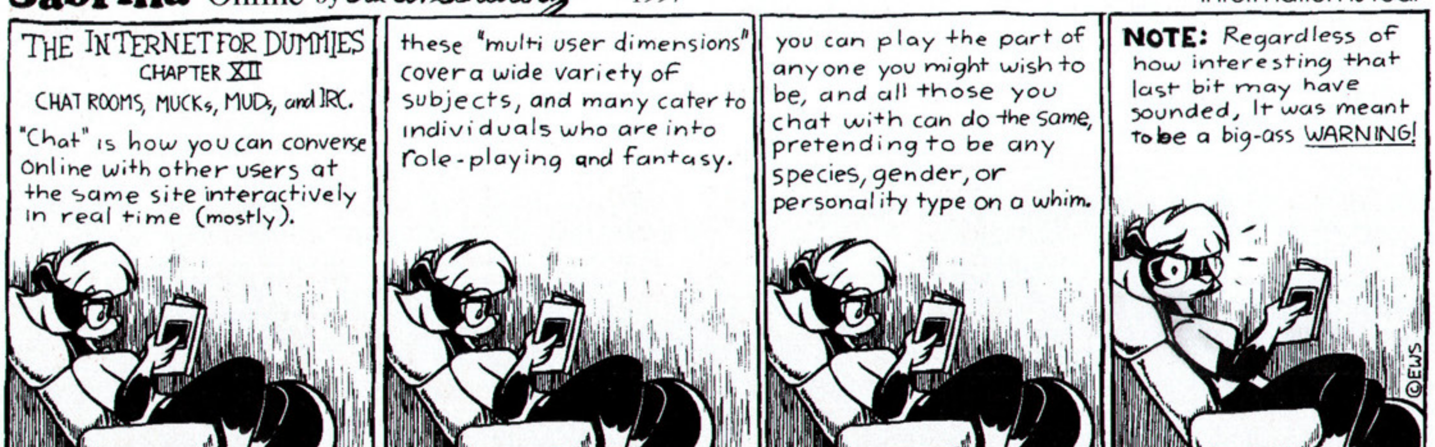
INSULTED

Being rather a bit dismayed at your 101st issue, I thought I would write you a letter. To begin with, your insulting tone that people overseas fail to register Shareware because of the complications with converting US$ to Pounds or Lira or whatever currency doesn't bother me, as I would gladly register a huge amount of Shareware I use daily. Running a local CNet BBS with multiple lines demands pfiles – or online games – to be present. All good and not too difficult to install, but horrendously difficult to find the original authors. I find that a large percentage of the authors have moved on from college where they made the programs, or moved to another area.

Shareware on Aminet is up-to-date, true; but there is also a wealth of files that have been authored years past. To date, I have successfully tracked down only two authors of older Shareware, and one of them simply doesn't have the desire to pull his retired Amiga out from under the dust and fire it up. Asking someone to send $5 or $10 dollars to some obsolete corner of the world with little or no hope of getting the full versions or simple keyfiles needed to fully register your copy is like asking me to throw it out the window and hope I get something in return. I still do try to track down the authors, no matter how old the files may be.

Another thing that bothers me is your constant push for people with your 'get with it and upgrade, or get left behind' attitude. Why do I need to add more to my Amiga when it already does

Sabrina Online by Eric W. Schwartz ©1997 "Information is fear"

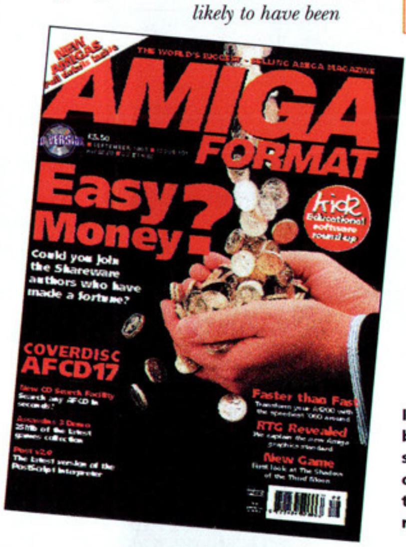


http://www.coax.net/people/erics/sabrina.htm

all that I want it to? Running WB2.1 on my A2000, A500, and A3000 gets the job done. I will even be able to surf the WWW with *Web Cruiser* by Finale on my A500! (see http:// www.finale-dev.com for further info.)

Jonathan Hodges
via email

I'm sure that there are a great many people like you who are very conscientious about registering their Shareware, and it is very difficult, as you say, when trying to register old software (though it helps to get in touch with the author and establish contact first in these cases) with no response. And I don't think we were saying anything necessarily about "foreigners" because software is just as likely to have been



It wasn't meant to be contentious, but some people took offence to the idea that you should register Shareware.

written in Poland, Italy or Brazil as it is to have been written in the UK. Sorry if you were offended.

As to your second point though, that's fine. If you are happy with your machine and it does what you want it to, that's great. But don't try to hold back everybody else. I'm sorry, but the people who usually write to us saying their machine is great and they are happy to have 1Mb RAM and WB2 are usually exactly the people who go on to complain that none of the software on our Coverdisks will work, or that there aren't any reviews of WB2 compatible software. They can't have it both ways – if they don't want to upgrade, that's really fine, and for many people there's no point, but I strongly object to people complaining that no software should be written that assumes more than the bare minimum of requirements. What about people who have spent effort and money upgrading?

CREDIT WHERE IT'S DUE DEPT.

I'm writing to tell everyone how good Electronics Boutique is. When I first went there a couple of years ago the shelves were literally overflowing with Amiga software and they still are today! Amazing really, because every other shop I've been into has stopped selling Amiga games. And, it's the only place I can find *AF* where I live!

Peter Luckhurst
Croydon

Back in August I received back from Gordon Harwood Computers my Blizzard 1260 & SCSI IV kit after it failed twice to work on my system. The service I have received from Harwood's was absolutely brilliant, especially when you consider the state of the Amiga market. The 1260 & SCSI kit was tested on two different occasions & the SCSI kit was replaced without any quibbling, as was the 1260 when it failed. Both were returned to me by next day delivery and both are now working perfectly after following the advice given by Harwood's technician, James.

I certainly don't want to scare anybody off purchasing a 1260 just because I had a few problems with it, quite the opposite in fact. The speed of the board is awesome and I have had far worse problems with my A1200 (which is now in an Eyetech tower). This is also the first time I have ever had any problems with anything I have bought from Harwoods.

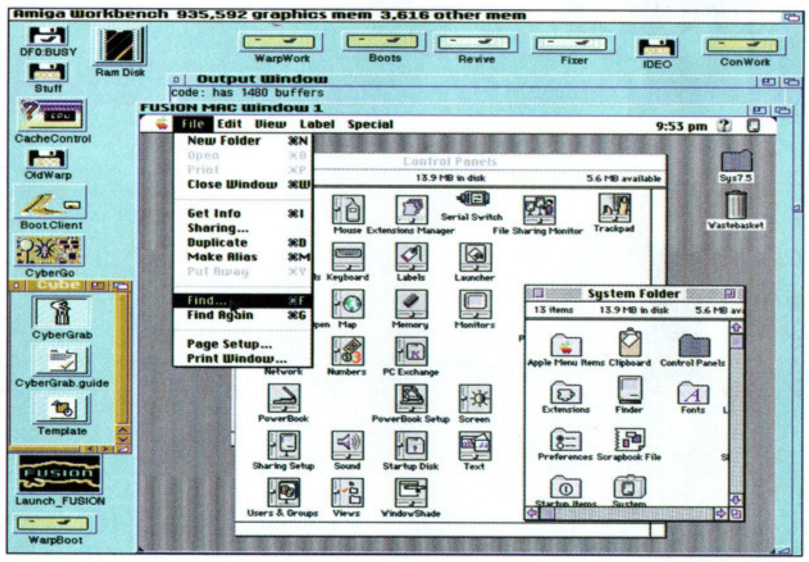
T. Collier
Edinburgh

Well, I have to say that we don't get too many of these letters, especially about Electronics Boutique, as not all stores seem to be so enlightened – though look out for the special Acid Software promotions coming soon!

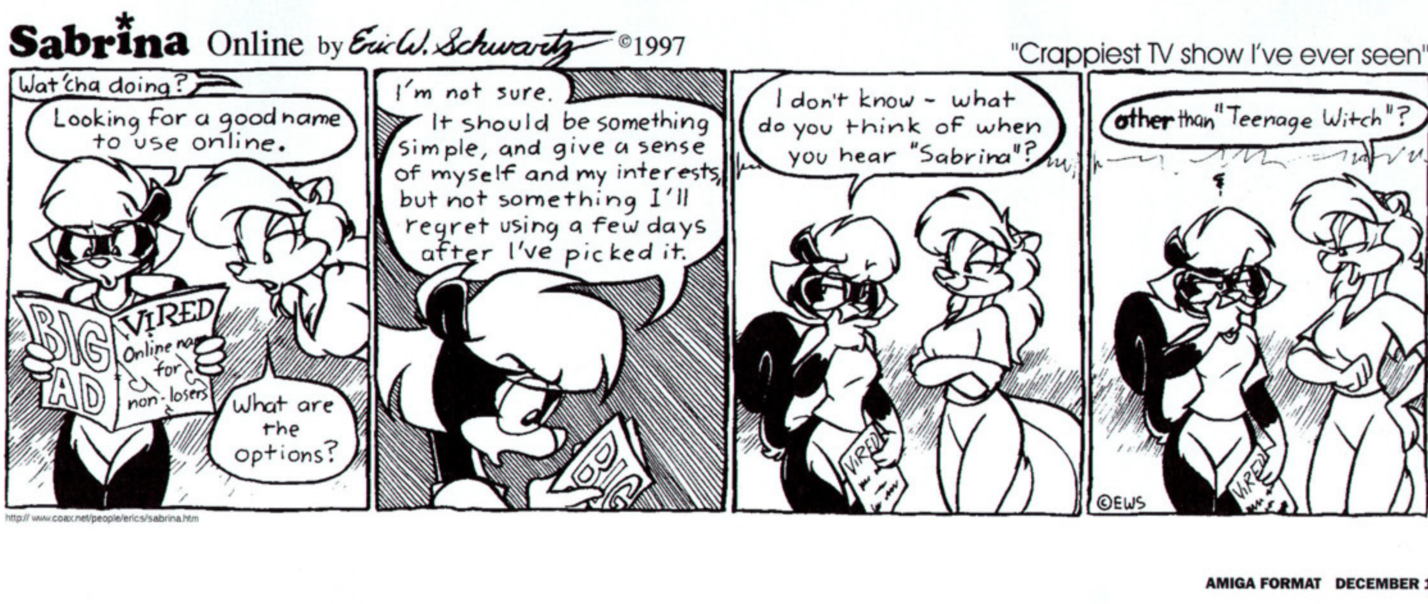
RETURN OF THE MAC

Firstly, I would like to congratulate you on an excellent magazine each month. Secondly, I would like to issue a challenge to Amiga programmers to program a fully-compatible transparent Power PC Macintosh emulator, for use with Power PC accelerators. I believe

Continued overleaf ➡



Fusion **– although it may have some flaws, it claims to support emulation of PowerPC Macs – but obviously, you will need a PPC equipped Amiga.**



http:// www.coax.net/people/erics/sabrina.htm

CLOCKED

Did I read this right? In *AF101* (September) there was a letter saying that all Amigas have an 8-digit clock field, which will be able to cope with the year 2000 and beyond. With all the fuss about a computer meltdown in 2000, all Amigans should be celebrating. Shouldn't Gateway or somebody be making the most of this Amiga good news? This is the best advertising gimmick the Amiga will ever get! If they don't screw this up, they'll smash PCs into the ground and the Amiga will once more be a world leader.

Ivan Rakiwsky
Leicester

Well, it has to be said that most PCs manufactured in recent years also support a four digit year field, so I wouldn't expect the entire PC monolith to crumble to dust overnight. But it is quite amusing that we have had to wait until the mid nineties before someone saw this as a problem.

such an emulator would revolutionise the Amiga software market and I'm sure you will agree. Your CD-ROMs are excellent – keep up the good work!

David Ford
Essex

Er, I'm not sure if I would agree actually. How would running Mac software make the Amiga software market any better? Would it encourage new developers to make software for the Amiga? I don't think so. Apple Macintosh emulators, such as Fusion, *reviewed this issue on page 58, are useful for people who need to run "industry standard" software such as* Quark XPress. *But I don't really see the advantage to the Amiga software developers.*

MEMORIES CAN BE BEAUTIFUL AND YET...

Well, the Amigas are back on sale now, which can only be seen as a good thing. At least Gateway 2000 have had the sense to license the Amiga technology to other companies.

What worries me is that the Amiga is going to go down the PC road and end up having loads of problems with not enough memory etc. The Amiga has always had a good reputation for this, with 16Mb still being seen by most people as an enormous amount.

True, progress does mean that applications and games are going to get more sophisticated, and therefore demand more in terms of the machine's memory and processor. But surely it would be wise for Gateway and other Amiga machine manufacturers to provide machines with the right amount of memory, hard drive and the right processor to be able to run these high-powered pieces of software.

What the Amiga also needs is a large advertising campaign, not just in the Amiga press, but in the PC press as well. Surely it wouldn't be too hard for Gateway to spare a page of the several that they use in magazines like *PC Format* et al to be able to promote the Amiga. This is the only way that the Amiga is going to be able to break through to the PC market and perhaps break the Microsoft monopoly. Goodness knows we deserve it.

Finally, and on a completely different subject, I have two questions to ask your good selves. Firstly, I want to learn C but I can't find any Amiga-specific books on it. Is it worth buying a non-Amiga-specific book and then learning the rest from somewhere else? And, secondly, I want to upgrade my A600 to Workbench 3.1. Do I want the A500 version or the A1200 version?



Gateway are making great strides forward in the Amiga cause, well, that's when they're not unlawfully imprisoning small children in funny painted boxes.

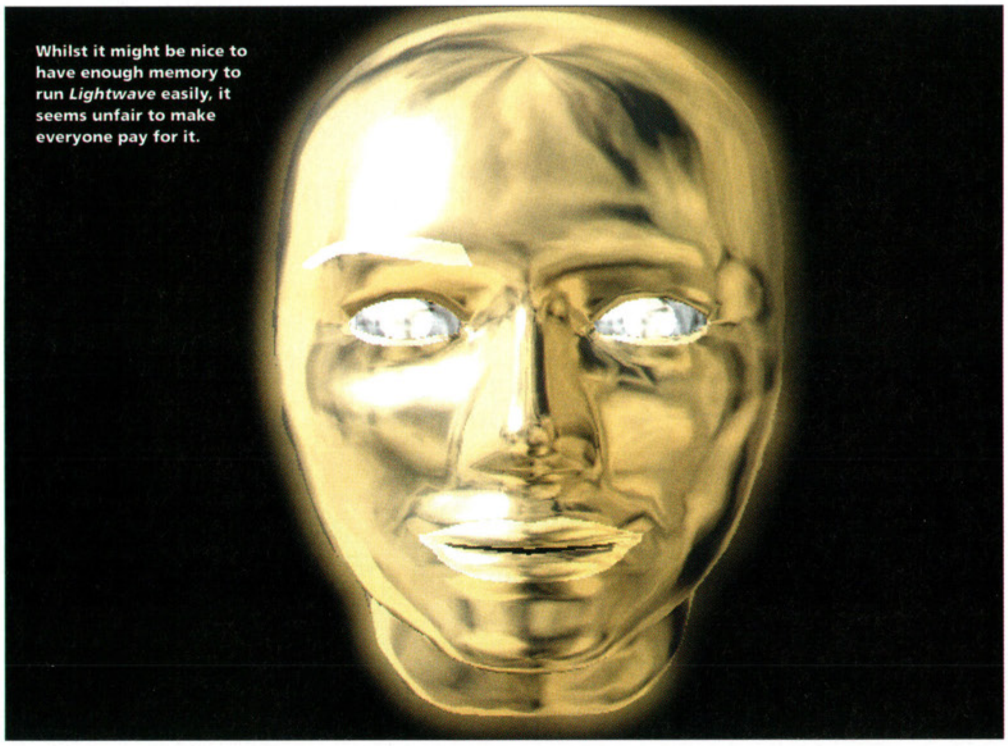
Stephen Smith
Hull

Yes, it is very encouraging to see that Gateway are taking ownership of the Amiga seriously.

It is important that software does not get "flabby" as it has done on the PC, or even the Mac (I'm sorry, but 9Mb to run a Web browser?), but I don't think your idea is really practical in some cases. The thing is that the Amiga is used for such a wide range of activities, from simple word processing (which doesn't need much memory, or a fast processor) to 3D rendering (which certainly does). While it certainly is an idea to include more memory to begin with, I don't think you can say that they should include enough to do anything. Lightwave *users will need at least 32Mb to do anything remotely serious. That is a lot of extra cost on the base Amiga, especially if someone only wants to buy a machine to word process on.*

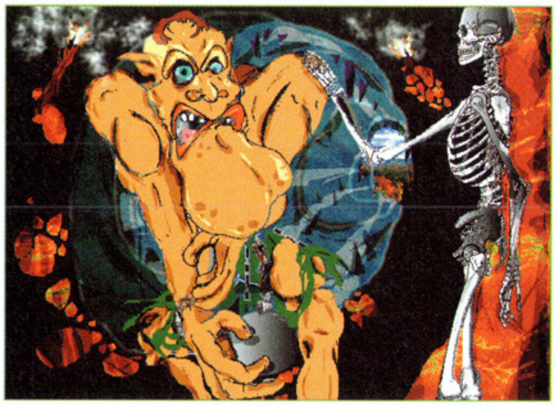
As for advertising, I don't think even Gateway have the marketing budget to turn the tide of propaganda being churned out by all the other PC manufacturers. It is much more important surely, that the Amiga is seen in shops where people can go and get intelligent responses to their questions. Selective advertising would be better than wasting millions of pounds, which could be better spent on developing new products.

On your completely different subject (which should have been in a separate letter addressed to Workbench), I would recommend both. A general C book like The C Programming Language by Kernighan and Ritchie (the blokes that invented it) is a great introduction to the language. There are some good C books around which deal specifically with the Amiga, and there is also a lot of information available on the Internet. You should look out for the excellent Anders Bjerrin C-Manual on Aminet too.


Whilst it might be nice to have enough memory to run *Lightwave* easily, it seems unfair to make everyone pay for it.

The Gallery

ON THIS MONTH'S CD AFCD20:-ReaderStuff-/Gallery



Hairy Man by Douglas Bayley
We've gone for one of Douglas' more humorous images this month, but it's still up to his usual standard.



£50 winner!



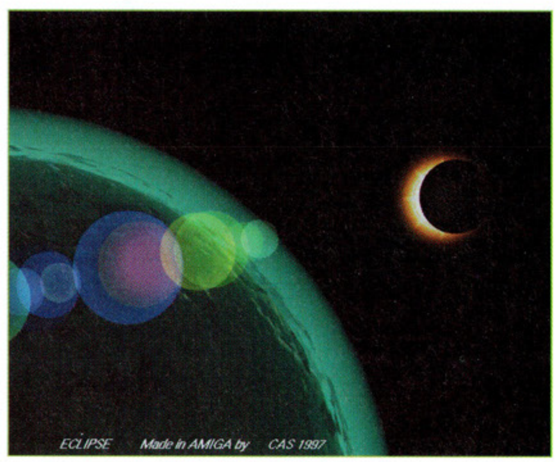
Breaking and Entry & Bridge Crossing by George Davis
These two beautifully hand-drawn images show why George has won this month's Gallery prize for excellence. Both were created in a combination of *PPaint* and *DPaint*.



Time by Alastair Walker
Part of his A-Level Art project, Alastair has spent a lot of time on his A1200 to create this image.

River City by Dave Higton
Dave's a regular contributor and here's another of his gorgeous scanned hand-drawn pics which are then finished in *Photogenics*.





Eclipse by C. A. Shaw
Mr. Shaw gives us a beautiful *Imagine*-created eclipse. We like the strength of the light in this picture.

Readers Ads

A veritable market place for Amiga-related goodies. If you've something to sell or you're looking for a bargain then this is where it's at!

For Sale

● **3000+ spectrum games** on CD with emulators, £10. Send cheque to Ian Otter • 5 Vaughan Avenue • Grimsby • DN32 8QB.

● **A1200,** 170Mb HD Apollo 1220 accelerator with 4Mb, Surf Squirrel, external floppy 9600 modem, tons of software & books, £270. ☎ A. Reynolds on 0181 304 8123

● **Games:** Oscar, Lion King, Jurassic Park for A1200, £10 each, Dune 2, Shadow Fighter, £15 each, Top 100 Games, World of A1200, £5 each. Would swap for Shadow Fighter CD32, Super Stardust CD32. Contact James Stark • Tides Reach • Trebarwith Strands • Tintagel • Cornwall • PL34 OHB.

● **Unused prize** Epson Stylus 400 A4 720 DPI, colour, £120. ☎ Lee on 0151 922 0875 to arrange postage or collection from 203 Fonthill Rd • Liverpool L4 1QD.

● **2.5" IDE HD** (A600/A1200) with WB, 200W Prima Atom PSU, Reno media vision, double speed CD-ROM & squirrel interface. Make me an offer. ☎ Spiros on 01789 296952.

● **Games:** Syndicate: £5, Nick Faldo's Championship Golf: £5, Personal Write 4.1: £10, Turbotech cartridge clock: £8. ☎ 01425 273810.

● **A1200 Magnum** '030, 40MHz, 127Mb HD, SCSI-II interface, 6x CD-ROM, Microvitec 1438 monitor, 200W PSU, Wordworth 6, PPaint 6.4 & games. ☎ Richard 01322 437565 (after 6pm).

● **3.5" IDE HDs,** 1Gb, in external chassis: £100, 2x 500Mb IDE HDs: £40, 1x 200Mb IDE HDs: £20, 95Mb SCSI tapes: £50, 4Mb SIMMS: £5 each, Kickstart 1.3 ROM: £5, CIAs (8520A): £5. ☎ Andy on 01889 884559.

● **A1200** Blizzard 1230, 16Mb, 190 Mb HD + quad speed, inc. monitor & lots of software £600 ono. ☎ Chris 01689 858266.

● **Vortex ATonce + PC emulator,** Hardware-based 286 emulation for A500 or A2000. Easy to fit, £40 ono. ☎ Mike on 01772 797197.

● **A1500 GVP 68030,** GVP 80Mb HD, 8Mb 24-bit graphics Epson printer, colour monitor, 8 boxes of games and mags, £500. ☎ Mr Selwood 01375 858621 (evening).

● **A1200 Blizzard** 1230/4 50MHz turbo accelerator with FPU 68882 PGA 50MHz & manual for £80. Squirrel SCSI interface, inc. software & manual: £30, A1200 keyboard: £10 and internal floppy drive: £15. ☎ Paul on 0151 639 5642.

● **SimEarth**: £20, Global Effects: £15, Blade Warrior: £15, Epic: £15, Legend: £20, Knights of the Sky: £20, Shadowlands: £15, Civilisation: £20, Flying Fortress: £20, Frontier Elite II: £20, Whale's Voyage: £20 ☎ M. Taylor 0181 873 0945.

● **Expansion board,** 4Mb 20MHz, comes complete with clock & original case. Contact Kevin • 60 Edith Street • Northampton • NN1 5EW.

● **30 boxed Amiga games** (inc. Gloom, Xtreme Racing) worth £300 offered in exchange for 68040 accelerator board for A1200. Without memory '030/50s also considered. ☎ Richard on 01274 672101.

● **A4000/030** 200Mb HD, 10Mb RAM, HDD, WB3.0, manuals + FPU. Perfect cond., £850 ono. ☎ Jamie 01202 571172 (after 5pm).

● **Colour printer,** Citizen Swift 200, 24-pin dot matrix + software: £70, Power Scan3 scanner: £60, Apollo 1220 accelerator, 4Mb: £70, Wordworth 2: £5, Civilization AGA & manuals: £7, Bloodnet (boxed): £10 ☎ Stuart on 0181 930 0532 or 0181 930 5753.

● **Imagine 4 with manual**: £30, AB3D II: £10, Worms: £10, misc stuff inc. VistaPro 3, Distant Suns, Lightwave 3.5 for bargain prices ☎ Mr Thewlis 01405 860798 aft.6pm.

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● **Games:** Syndicate, Historyline, Zool, Jurassic Park, Alien Breed 2, Tactical Manager 2, Gods, Populous 2, Xenon 2, Storm Master, Smash TV, Cannon Fodder 2, – all £5, xtra £2 for box. ☎ Daniel on 01502 568000.

● **Tower case,** 540Mb HD & quad speed CD-ROM: £200 ono. A1200 accelerator, Apollo Lite with 25MHz Co-Pro and 4Mb RAM: £70 ono. ☎ Call Mark on 01722 710113.

● **Original games,** all £5, send an SAE for full list to John Guthrie • 203 Long Lane • Bolton • Lancs • BL2 6EX

● **Flicker Fixer Zorro card** for A2000: (works in A4000) £50, Commodore Genlock Zorro card with software: £50, A4000 CPU card '030 25MHz: £30. ☎ Matt 0976 881620.

● **A1200,** 80Mb HD, '030 50MHz 20Mb memory expansion, Reno CD-ROM drive, SCSI adaptor, Xtra floppy drive, lots of sofware and games, excellent for 3D applications: £650. ☎ R. Millward 01202 789433.

● **Accelerator,** '040, Falcon, brand new, 6 month warranty, p.w.o, £150 not negotiable. Will sell it with A1200 "Magic Pack" for £499 ono. ☎ George 01603 702644.

● **Accelerator board,** Commodore C2630 '030 with FPU, 4Mb, fits CPU slot of all big-box Amigas, £110 ono. ☎ Call Maurice on 01454 534144.

● **A4000,** Warp 040/40, SCSI II+ Micropolis, 1Gb AV drive, 540Mb IDE, 4xCD-ROM, 32Mb fast RAM, V-Lab motion card, M-Sync, speakers, Image FX 2.1, AdPro 2.5, Studio 2, Vista Pro, Makepat II, Terraform, Brilliance 2 & books, games, CDs. All above for £1,800 ono. ☎ Glenn after 6pm on 01703 905257.

● **Monitor** for sale, Microvitec 14" Multisync: £150. ☎ Roger 01707 338084 (after 6pm).

● **Dual Speed CD-ROM,** external, fits PCMCIA slot, with manual installation software etc. £70. ☎ Alexi 0161 04 9471.

● **Expanded A1200** with Blizzard II 50MHz board, 4Mb fast RAM, 1Gb Connor HD, 1084S monitor, replacement 120W PSU, 24-pin printer and software, £550. May sell separately. ☎ Speak to Homer Virgo on 01293 417935.

● **A1200 4Mb upgrade board,** 33MHz FPU, under warranty: £40. ☎ Richard 01733 241248 (after 4.30pm).

● **CD³² console with Surf Squirrel,** for A1200, double speed CD-ROM and CDs, £65. Also A1500 (no printer) open to offers. ☎ Dr. R. Astley 01527 861486.

● **A1200,** 68030, 6Mb RAM, 250Mb HD, 300+ disks, 10 boxed games (inc Worms, AB3D II) secondary disk drive & much more, £265. ☎ Stephen 01435 863480 or email him at steve@ieye.com

Boxed games, g.w.o, open to offers. Includes Nick Faldo's Golf, Syndicate, The Chaos Engine, KGB, Lords of the Realm, Arcade Pool, Mini Office, Easy Amos, Noddy's Big Adventure.☎ A.Chubb 01473 449967.

● **CD³²,** boxed, g.w.o, manual, leads, two controllers. Also 15 games (inc. Worms & The Sorcerer) and SERnet software plus lead for connection to other Amiga, all for £100 ono. ☎ Michael 01282 775732.

● **IDE IBM HD, 1x2.5" 80Mb,** comes with Amiga 1200/4000 HD manual and disk for £50. ☎ John 01706 361488 or email him at johnel@simulator.demon.co.uk.

● **1220/4 RAM** board (boxed) £40. A1200 original power brick £20. Colonization (boxed) £5. Civilization (boxed) £5. ☎ Andy 01604 791518

● **A500+,** needs new DD, CIA chip and PSU. Spares or repairs, £15. ☎ Paul 01484 644692.

● **Monitor,** Commodore 1084S, exc. cond, £80 ovno. ☎ Mark 01745 591146.

● **Multiscan Monitor,** Microvitec, inc. screen filter & dust cover. Exc. cond, 10 months old, £180. ☎ Mr Allen 01524 413038 or email him at angelfish@enterprise.net

● **Viper** 1230, 4Mb RAM, 33MHz FPU, with instructions, £75. Games (Trolls, Striker, Pinball, Dreams, Zool, Benefactor, Photon Paint 2.0), all £6. ☎ James 0117 960 4616.

● **A1200,** mouse, joystick, exc.cond, WB3.0, Wordworth Deluxe, Paint IV, Rainbow Islands, & more, £160 inc. p&p. ☎ John 01896 823980.

● **A4000/'030 + monitor** with RocGen and Prograb & games. Perfect for upgrade. Many games included and many back issues of *AF.* ☎ Stephen on 01905 620405.

● **KRP ES30 edit system** with jog shuttle Rendale 9402 Genlock. A1200 85Mb hard drive, 4Mb RAM accelerator, software including Scala MM220 £300 ono. ☎ 0411 420 983 for full details. Will split.

● **For sale** due to upgrade – A1200 memory expansion board with 4Mb SIMM £40. ☎ Allan Shillitto 01275 878125 (North Somerset).

● **Civ, Simon, Star Crusader,** T.P, M.K, Wing Commander. All £20. All A1 condition. ☎ Warren McGill 0802 819349 mornings or leave message.

● **Amiga 1500,** 1085s monitor, 120Mb hard drive, Microbotics 68030 accelerator, 6Mb RAM plus various software. £300 ono. ☎ 01202 741069

● **Amiga 4000** '030, colour monitor, hard disk plus all the games, software and peripherals. £500 ☎ 01252 519689 (after 6pm).

● **RAM board** for A1200, 4Mb, onboard clock PCMCIA compatible FPU socket. vgc. £45 ☎ Roy Bradford 01274 622684.

Wanted

● **Coverdisk AF81a** (Blitz Basic 2.15), *AF*85 Blitz tutorial pages, AF52 Blitz Basic 2 tutorial pages. Photocopies would be fine. Contact James Stark • Tides Reach • Trebarwith Strands • Tintagel • Cornwall PL34 OHB.

● **Old Games:** Wings, K240, also Cannon Fodder 1 and the Amiga action demo version. All must run on the A500 with 1Mb. ☎ Andrew on 01861 548874.

● **Alien Breed II,** All Terrain Racer, Lords of the Realm & other A1200-compatible games. No pirates, ta. Mark Saunders • Villa Nova • High Street • Godshill • I.O.W.

● **AF24 with disks/ or just the disks,** contact Mr Banks • 78 Grange Rd • Hartlepool • TS26 8JQ

● **A320 Airbus Europe/America** (A500 version) to swap for Aircraft SIMs. Contact Stephen Ryan • 11 Ponsonby Rd • Stretford • Manchester • M32 ODU ☎ 0161 286 6236

● **Any version of Kingpin.** Will take best offer, ☎ Matthew on 01942 272762 Mon-Fri after 4pm.

● **Beginner reference manuals** for the A4000/030. ☎ Glyn Walsall on 01922 682247

● **Does anyone know** where I can buy Blue Byte's Battle Isle & Battle Isle Data Disk Doses? ☎ R. S. Hardy on 01908 586965.

● **I'm looking** for Coala by Empire Interactive (boxed original). ☎ Zin on 01494 536855 after 6pm

● **Does anyone have** Miracle Piano Technique system? ☎ David after 6pm on 01902 782528.

● **AF CDs 4,5,6** wanted. Other types also wanted. Contact Mr Smith • 127 Granby Court • Granby • Bletchley • Milton Keynes.

● **Does anyone know** where I can get a copy of Transantartica? ☎ Kevin on 01691 661488.

● **PD contacts wanted** for software swapping. No pirates please. Write to Nick Abbott • 108 Zetland Rd • Town Moor • Doncaster • S. Yorks DN2 5EJ

● **I need scanning software** for a Geniscan GS-4500 scanner from Datel Electronics, Handyscan version 5 preferred. ☎ Ian on 01475 796755.

● **I want friendly contacts** for swapping games and programs. Please write to Cheryl Hunter • 15 Hoscar Court • Ditton • Widnes • Cheshire WA8 8PF

● **I'll swap** 3 Suzuki GSx250 motorbikes (1 near completion, 2 in bits) for an A4000. Interested? Contact Mark • 132 Macauley Drive • Lincoln LN2 4ES

● **Games wanted:** Beneath A Steel Sky & Venus The Flytrap. ☎ Derek on 0131 476 0329.

● **I need info** about Delfina, Prelude, or Clarity 16-bit soundcards. Write to Nikola Tomic • Sindeliceva • 11/8 • 14000 Valjevo • Serbia • Yugoslavia.

● **PD disks** for competition – PowerPC A1200 up for grabs to best one. Send to David Hardy • Summerhill • Fairlynch Lane • Braunton • Devon EX33 7BT.

● **Games** for A500, cash offered, send lists to David Niblett • 5 Yarborough Rd • East Cowes • I.O.W PO332 6SH.

● **Games:** Hired Guns, Beneath a Steel Sky, Kings Quest VI. ☎ Richard on 01834 813800.

● **Where** can I find Premier Manager III for the A500/A1200? ☎ Robert on 01744 600315.

● **I'm looking for** Moonstone and Armour Geddon 2: Codename Hellfire. Will pay for them or swap for other games. ☎ Anthony 01236 732520.

● **I'm looking for** Excellent Cards Plus Excellent Cards Three. Full version not PD. Will pay. ☎ Chas 0141 423 9408 (after 6pm).

● **Blizzard SCSI-2** module for A1230-IV or Surf Squirrel required. Hypercom or similar, fast serial port required for A1200. 4x+ SCSI or IDE CD-ROM required. ☎ 01904 624637 (York) David Bateman.

● **Lightwave,** Imagine 4 or 5, Might & Magic 2&3 and hint books. Bane of the Cosmic Forge and other RPGs. Swaps also. ☎ Mike 01784 885914 (Middlesex)

Personal

● **Whoever sent me** two disks back in August, pls. contact me, Andrew Jackson • 7 Nut Tree Close • East Huntspill • Nr. Highbidge • Somerset TA9 3PN • I'm unable to use them.

User Groups

● **Any user groups in Dublin?** I'm looking for a user group in Dublin. Is there anybody out there who wants to assist someone who's new to the scene? All letters answered. Write to Karen Rickeard • 10 Stamer Street • S.C.R. • Dublin 8 • Eire.

● **Calling all Amigans in Norwich,** our user group meets fortnightly in the Belvedere Community Centre. Everybody welcome, get in touch with V. Couper ☎ 01603 867663.

● **Tuition required,** Amiga 1200 for novice OAP possibly SW London, Croydon area. Private or User group. Contact Hemingway POB 177 • Tooting • London SW17 8EJ

This month's Cover CD

As part of our constant aim to keep improving our CD-ROM for you every month, Ben Vost introduces ***AFCDPrefs***. And there's plenty more so read on.

Vulcan Demos

Exclusive

AFCD20:-ScreenPlay-/Commercial/

In an exclusive deal with those nice guys at Vulcan we have demos of both *Final Odyssey* and *Uropa 2* on this month's CD. That's right. These demos aren't like the ones available on Aminet, or any other possibly inferior CD. You can only get them here. And great games they are too.



Right at the start of your journey through the massive *Final Odyssey* demo.



Cute the little stool things may be, but they dun'alf get in yer way when you're trying to get out the door.



Aaarghhh! Turned to ice by the blob monster! If only I had stepped on the transporter quicker.



Damn and blast! Blown up by a baddie. I suppose I'll have to start all over again now.

FINAL ODYSSEY

You play Theseus in this old-style maze game which oozes class. Wandering around avoiding monsters and traps, looking for keys and pressure plates is great fun and the graphics are absolutely gorgeous. More than that, *Final Odyssey* will provide a lasting challenge with its five worlds each consisting of 100s of screens. There are random mazes that change every time you play the game and multiple weapons which get progressively more destructive. All in all, *Final Odyssey* is heaped with goodies for you to get your teeth into.

UROPA 2

This is a bit of a double header. The first part of the game consists of an isometric arcade adventure. Here you explore the complex, picking up items and solving problems while beset by baddies. The outside of the complex introduces you to a completely different game-style – a first person perspective flight-sim kind of thing. Better yet, even in this demo, you can link up two Amigas over their serial ports and play the flight-sim game in a head-to-head duel.

Both games will work on any Amiga with a CD-ROM drive and enough memory and will take advantage of things like AGA, faster processors, extra memory and so on. They will feature extensive graphics and multiple languages and will both be available from reputable Amiga dealers the world over, including Weird Science 0116 246 3800 and Vulcan USA 1-800-426-7687.

Welcome to *AFCD20*. Yet again, we have managed to absolutely fill our CD this month – there's not a spare byte going, but that's not the biggest news. The biggest news is that *AFCDPrefs* finally makes its debut. It is the result of long testing and is a special program written exclusively for *Amiga Format*'s CD. It allows you to choose exactly the tool you want to use to show images, play animations, read text files and more on our CD. Once you've set it once, you'll only need to set it again if you update your machine with newer software.

On running the *AFCD* Setup script for the first time when you use *AFCD20*, you will be asked if you want to make use of *AFCDPrefs*. Try it. You can use the little arrow gadgets at the end of each text gadget to bring up a file requestor to allow you to choose the tools you want to use for viewing HTML files, pictures, anims and lots more. Now, whenever you double click on a picture or text file on the *AFCD*, you'll see a message on your Workbench title bar which says "Attempting to launch AFCDView". This is the catch all tool that uses *AFCDPrefs* to find out exactly what you want to use to view the file you've double clicked on. We hope you like this new addition to the *AFCD* and we hope that it makes your life even easier. Do write in and tell us what you think of our newest handy tool, we'd love to hear what you have to say.

Dice C

AFCD20:-Seriously_Amiga-/Shareware/Programming/C/DICE_v3.15

If you've started following our MUI

AQUANAUGHTY

It appears that some of you have been having a spot of bother with the Coverdisk game from *AF102 – Aquanaut*. It transpires that the problem was down to a weird version of DMS being used for the game and that, in conjunction with the odd format used for the disk, resulted in people failing to be able to extract it correctly from the CD.

If you haven't already had your disk replaced by those nice people at F1 Software, you'll find a working version of the DMS file in AFCD20:-CoverDisks-/AF102a. (It was supposed to be 'b', but...)

tutorial, or you're tempted to try your hand at C programming, but haven't money to spend on a commercial C development package, why not have a go at Matt Dillon's *DICE C*? Full details are on page 20.

NEW WEBSITES!

AFCD20:+Look_here_1st!+/AF_on_the_web

Not only do we have new websites from ClickBOOM! and AmigaSoc this month, but the method of accessing them has changed somewhat. Instead of having to run one of our demo versions of *IBrowse*, *Voyager* or *AWeb*, the AFCDIndex.html page has an icon which gets it to run *AFCDView* for you. Now remember, *AFCDView* uses *AFCDPrefs* so you can set up whichever browser you wish to view HTML files from now on. Great eh?

READERSTUFF

We had quite a lot of good entries this month from you lot (well done – ed), but one stands head and shoulders (knees and toes, knees and toes) above the rest for the amount of work that's gone into it.

Step forward Stephen Chance for his brilliant *Personal Trainer* program! Stephen's done an awful lot of work to give you the perfect weight training regime with different sets of exercises for different days of the week – all accompanied by a visual demonstration of what to do and a voice over describing the motions!

The training is designed to complete a weight training workout and give you instructions to follow, without being static like a video tape and overall it's excellent. Well done Stephen, the fifty quid's on its way to you...

But we actually had a gorgeous crop of reader submissions this month other than Stephen's so don't go away just yet. There's Richard Hodge's bizarre sheep simulator, Steve Glover's *CyberBlanker* for graphics cards and DPMS-equipped

Continued overleaf ➡





New websites, new opportunities – especially now that you can point the HTML at your own browser instead of the demos on the CD.

Hidden Truth Demo

AFCD20:-Seriously_Amiga-/Commercial/HiddenTruth

If you weren't sure about the *Hidden Truth* CD from Sadeness Software, now's your chance to give it a go. Sadeness have given us a large portion of the demo to go on our CD. It's HTML-based, so it should work in any browser, and it's really very good with nice HTML tricks and even JavaScript for people who have capable browsers (not on the Amiga at the moment alas). Best of all, because the index file is using *AFCDView*, you can point it at your own browser rather than the one on the CD to avoid all those "AFCD20 is write protected" messages.







Have a taster of Sadeness' excellent Hidden Truth CD. The only thing you won't get from this picture is the eerie music that accompanies most pages...

At your fingertips

AHI

AFCD20:-Seriously_Amiga-/Shareware/Sound/AHI

If you're interested in sound, you have an audio card for your Amiga, or you just want to be able to play the latest games like *Genetic Species* and *H-Bomb*, you'll want to install this latest version of AHI. AHI is the audio equivalent of RTG and allows you to retarget the Amiga's audio to another device. Better yet, it allows you to get the Amiga's internal sound chip – Paula – to torture itself into giving you 14-bit stereo sound, but don't expect to have an awful lot of CPU time left over for anything else!

Superview NG

AFCD20:-Seriously_Amiga-/Shareware/Graphics/SViewNG

We've had *Superview* on our CD every time it's been updated, but a lot of people still don't know what it is, or what it's for. *Superview* is a huge project that encompasses, but is not limited to picture viewing, scanning, printing, image processing and screen grabbing – all in colour depths up to 24-bit.

It is designed to work as both a library and a standalone application and can handle more file formats than you can shake a stick at. In short, it is an excellent addition to your Amiga.

Virus Z

AFCD20:-Seriously_Amiga-/Shareware/Virus/VirusZ

Since John Veldthuis turned over *Virus Checker* to someone else, people have been casting around for a new virus checker and *Virus Z* might just be it. If you really want to make sure that your Amiga is free of these nasty little programs, then it definitely pays to have a program like this in your WBStartup, running all the time. *Virus Z* recognises a total of well over 300 different viruses all of which could end up ruining your day big style.

Studio update

AFCD20:-Seriously_Amiga-/Commercial/Studio_Update_V2.15

If you are the proud owner of Wolf Faust's excellent *Studio* program for Printer output, and you have a recent Epson or Canon inkjet printer you'll be pleased to get this update.

This version will patch anyone with version 2.14 of *Studio* and gives all sorts of new features including support for the Epson Microweave standard and TIFF images in all manner of colour space formats.

Continued ➡

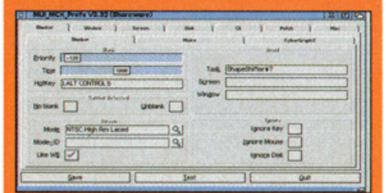
At your fingertips

New MultiCX and MCX Prefs

AFCD20:+Look_here_1st!+/Handy_Tools/MCXP332

AFCD20:+Look_here_1st!+/Handy_Tools/MultiCX2

Bugfixes more than improvements in the latest version of one of the finest commodities the Amiga has, but still an essential install. If you don't have *MultiCX* running on your machine, you're missing out on half your machine's power. If you don't like the somewhat cryptic preference settings (you have to edit tooltypes), then why not install *MCXPrefs* at the same time and get a *MUI* GUI preferences editor for all the settings *MCX* has?

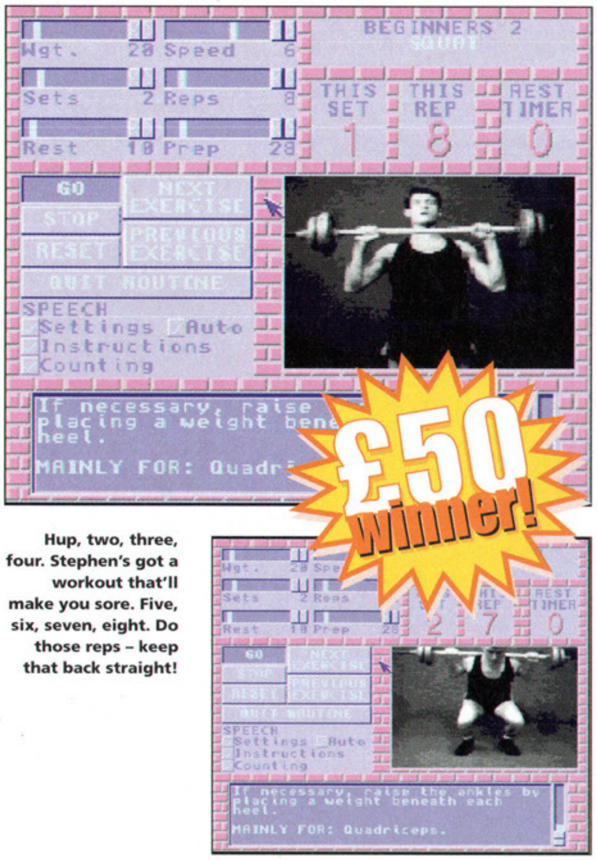


Much easier than dealing with tooltypes.

HD Installers

AFCD20:-ScreenPlay-/Utilities/HD_Installers

More than twenty installers for your games onto hard disk this month. We've got yet another *Project X* installer, ones for *SuperCarsII*, *R-Type 2*, *Theme Park Mystery*, *Hook* and loads more classic games.



Hup, two, three, four. Stephen's got a workout that'll make you sore. Five, six, seven, eight. Do those reps – keep that back straight!



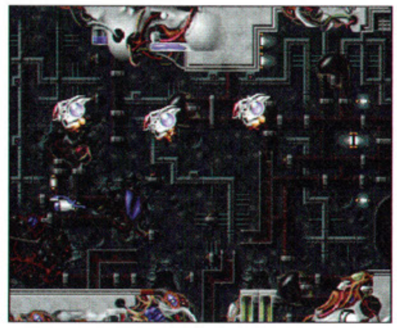
Vastly more colourful, but watch out for chip RAM usage if you don't have a graphics card.

⬅ monitors, Mark Sweeney's pretty (but ever-so-slightly-shallow) first aid program and loads more.

NewIcons v4

AFCD20:-Seriously_Amiga-/Shareware/Workbench/NewIconsV4

If you are a *NewIcons* fan then you should be ecstatic to find the latest version of it here, before any other CD! Version 4 offers the user a new 32-colour palette instead of 14 colours, together with a new 32-colour iconset, it allows you to set the transparency of icons separately to whether or not they have borders and gives you the option to give your icons' text an outline or a drop shadow. All this in addition to being able to run faster with optimised libraries for graphics card owners and '060 users.



Lots of monsters, lovely graphics – it looks like an old-style game we could love.



Apparently you get loads of different weapons in the game itself. We can't wait.

TRAUMA ZERO

AFCD20:-ScreenPlay-/Shareware/TraumaZero

Here's a first look at a brand new shoot-em-up. It's a rolling demo showing off this new Italian game that promises to offer 50fps and 1/4 pixel scrolling along with a full PAL overscan playing area. The graphics look great already and it looks like there's going to be a lovely simultaneous two player mode where you can both blast away to your heart's content. The only problem with this demo is that it doesn't give you back to



Look but don't touch. This demo of *Trauma Zero* is only a rolling one.



Workbench at the end – you'll have to reboot, so only run it once you've saved all the work you're doing.

TCPDL

AFCD20:-Seriously_Amiga-/Shareware/Comms/Other/TCPDL

If you fancy having a good thorough look at a website, but you want to keep your online time to a bare minimum, you'll make good use of this program. It allows you to set up a list of websites which it will then make a maximum of fifteen connections to, downloading HTML and graphics files together with all the links therein. You can configure *TCPDL* so that you won't be downloading every single website in the world and once you have the files on your hard drive, you can log off. The websites you have downloaded will then be available from your hard drive for direct access.

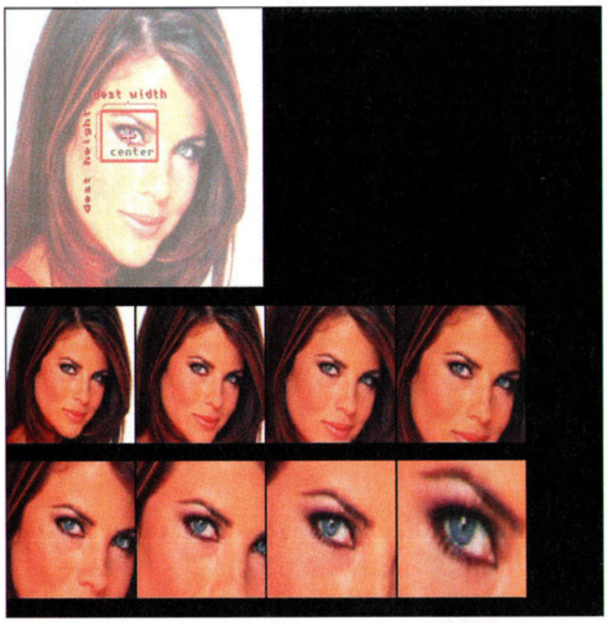
ZOOMER

AFCD20:-Seriously_Amiga-/Shareware/Graphics/Zoomer

Here's a handy ARexx script for all you *ImageF/X* owners out there. It allows you to zoom in on a picture and then save the intermediate steps out as 24-bit frames, or rendered images, so that you can make them into an animation.

The script has all sorts of options, such as whether you want the zoom to be smooth or just increase the size of the pixels, and it should work with all revisions of ImageF/X from v1.5.

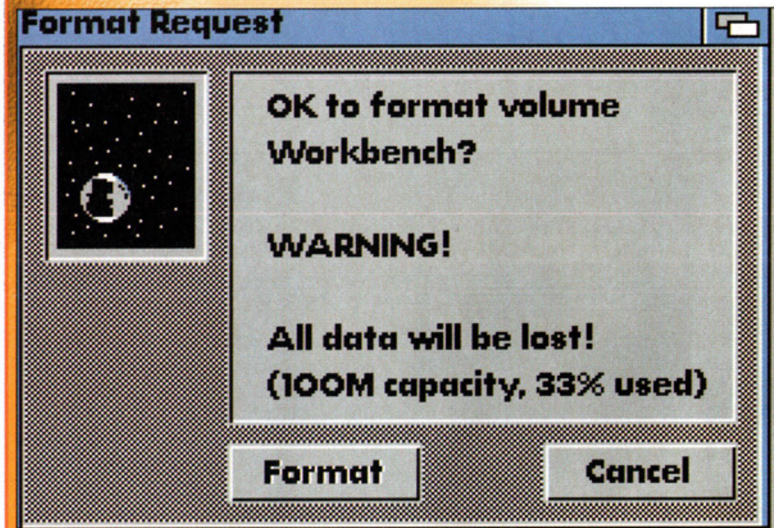
Zooming in on an image has never been easier – if you have a copy of *ImageF/X* installed.



SPOTLIGHT ON A HANDY TOOL!

ARQ

ARQ is one of those hacks that haven't been updated for ages, but you wouldn't part with them for the world. In short, it replaces all the standard Workbench requestors ("Please insert volume xxx: in any drive", "OK to format volume Workbench?", etc.) with nice animated versions that also have two extra bonuses. The first is that all these requestors will now be centred on the screen, the second is that you can use Return for the left-most button and Esc for the right-most – usually OK and Cancel. If the requester has more than two buttons, you can use the Function keys for each button from F1 on the left and so on. The only problem with *ARQ* is that you need to start it really early in your WBStartup – putting STARTPRI=-127 as a tooltype should sort that out.



Spruce up those boring old requestors with super snazzy *ARQ*!

READER WARRANT

Every reader submission to the AFCD must have a reader warrant attached to the accompanying AF_Readme file. You can type it in off this page or take it from the various locations it is stored in on the CD (Look_here_1st!, ReaderStuff etc). A last reminder: this text must be in your AF_ReadMe, or your submission won't go on the CD – it's Future policy.

In respect of all material which forms my reader contribution to Future Publishing's Amiga Format I hereby warrant that:-
(1) the material is original and does not infringe any other material or rights;
(2) the material does not contain any material which is defamatory, obscene or indecent and is exempt from classification under the Video Recordings Act 1984;
(3) that there are no legal claims against the material provided;
(4) that I have full power and authority to provide this material to Future Publishing.

DISCLAIMER

This *AFCD* has been thoroughly scanned and tested at all stages of production. We recommend that you always run a virus checker on ANY software before running it. Future Publishing Limited cannot accept any responsibility for disruption, damage and/or loss to your data or your computer system which may occur while using this disc, the programs or the data on it. Ensure that you have up-to-date backups of data contained on your hard drives before running any new software. If you do not accept these conditions do not use this disc.

DISC NOT WORKING?

If your AFCD is defective, please return it to the address below. Please make sure that you have followed our installation procedures correctly to ensure that there is no physical problem. Please send us the AFCD along with a description of the fault (not forgetting your name and address). A new working version should be returned to you within 28 days. The return address for faulty discs is:

CD Systems • VDC House
House Way • Wembley
Middlesex • HA9 0EH

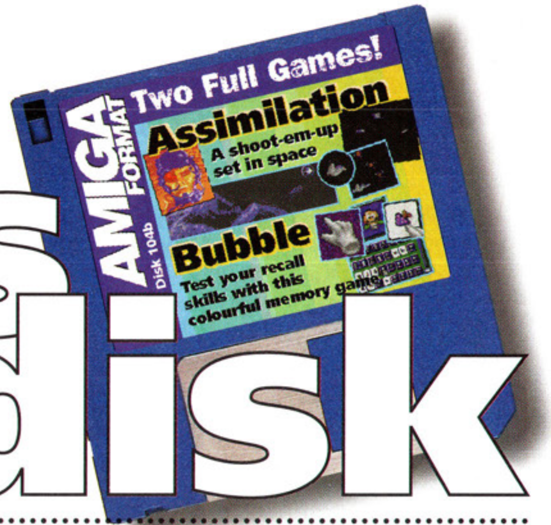
Your *AFCD* should only need replacing if the CD itself cannot be read. If, instead, you are experiencing problems with an individual demo or application, phone our technical support line. This is open between the hours of 2pm and 5pm every Tuesday.
Tel: 01225 442244
Fax: 01225 732341
email: amformat@futurenet.co.uk
("Coverdisc" in the subject line).

Please note that the helpline staff provide assistance with technical problems directly related to the CD and cannot provide training on the software or hardware in general.

Games disk

AMIGA FORMAT

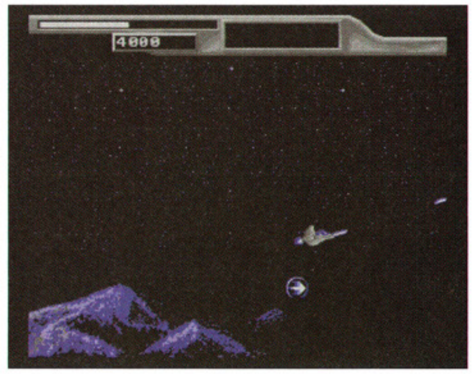




David Taylor introduces the two full games on this month's superb games disk. Save the planet with *Assimilation* and test your memory with *Bubble*.



Collect the bonuses and your journey through space will be a whole lot easier.



You've destroyed a whole wave so there's your bonus, ripe for the picking.



Dodge those aliens or they'll destroy your shield.

Full Game

Assimilation

Resistance, they would have you believe, is futile. But guess what, you're the one pilot on the planet that isn't going to buy that line. When the aliens attack, you choose to fly the only spaceship left to destroy them (apparently you're being paid a lot of money to do so). *Assimilation* is a classy shoot-em-up that sees you as the pilot of a spaceship sent off to blast your way through wave after wave of invader.

To play the game you first need to load Workbench. The game can be loaded directly from the *Assimilation* directory on the *Amiga Format* Coverdisk, but you cannot play it by booting the disk (only the *Bubble Memory* game can be played that way). Simply double click on the game's icon in its directory.

Assimilation is a horizontally scrolling game and you'll need to use your joystick to control the ship. If you don't have a joystick, you can use the keyboard.

A	Up
Z	Down
O	Left
P	Right
Space	Fire

If you start the game by pressing fire on the joystick then you'll have to use it to control the game and likewise, if you press the space bar, then you must use the keyboard.

When you start playing the game, you'll see straight away that it's a little more difficult than a normal shoot-em-up. This game has gravity and inertia, so that when you fly you don't simply fly in a straight line. If you don't compensate by angling upwards, then you will start to drift down to the floor. Hitting the floor won't damage your ship but it will leave you vulnerable to getting trapped. It takes a bit of getting used to and you'll start out by over-compensating and zooming from top to bottom of the screen.

The aliens attack in waves, but be warned, they don't just come from the front; you have to watch your back too. Rather than simply flying across the screen, they tend to swirl around so you may find you have to hold the ship steady while they circle you so that you don't crash into them. If you hit an enemy with your ship, your shield will

BUBBLE



The idea of this game is simple. You are faced with a pack of cards all laid out face down in rows and columns. You can pick two cards per go and the idea is to try and pick a pair. When you pick a card it will be turned over and you'll see what it is – in this game the cards all have sweets, fruit, etc on them. When you pick the next card, you'll see what that is. If you managed to pick a pair then those two cards will remain turned over and will be out of play. If you didn't, then the next card you click on will make the first two turn back over before it is revealed.

You have to try and remember what cards you have seen and where they were so that when you do come across a card that you've seen before you can go back and pick it to complete the pair. The idea is to remove all the cards from play by finding all the pairs.

There are two measures of your success. The first is the timer which you are racing against and which is shown by a bar down the right hand side. If you don't manage to complete the game within the time, then you lose. The second and harder measure is the number of moves it takes you to reveal all the pairs. If you simply click wildly until you get the pairs by luck you'll use masses of moves. If you remember the positions and chose the right cards then you'll use few moves and make it into the high score table. The game is designed to test your memory skills so you'll want to beat the entries that are already in there.



That's three pairs sorted then. That bar at the right tells you how much time there is left.



Only a few pairs left to find but it's taken 39 moves and there's precious little time left!



You may find the gravity pull tricky but you'll soon get the hang of it.

be reduced. Remember, to hold your ship steady you'll need to adjust the ship up or down, not forwards. Your instinct will be to compensate by accelerating, but that doesn't work. If you manage to shoot down an entire wave, then you will see a bonus icon for you to collect.

POWER UPS

There are five types of power-up:

1. **Hot Shots** increase your fire power. Some enemies take more than one hit to bring down, but this power-up can help to reduce the number of hits they can sustain.
2. **Speed Up** increases the speed and acceleration of your ship. Be careful when you get this because it can make you ship trickier to handle if you're not used to it.
3. **Anti Gravity** stops the effects of gravity, making flying that much easier, so you can concentrate on blasting the aliens.

All of these three bonuses only last for a set period of time. To see whether one is still active check the status bar at the top of the screen.

There are two other bonuses that give you a one off advantage.

4. **Shield Recharge** restores some of your shield's energy – as you only have one ship the shield is essential.
5. **The Smiley** bonus simply increases your score. These bonuses are rare so treasure them.

Assimilation is played through a series of levels which have different backdrops and different aliens. When you come to the end of a level you will be confronted with a guardian. This could be a single large enemy or a set of persistent aliens that you can't progress past before destroying.

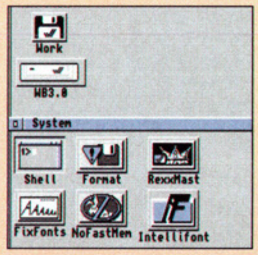
This game is from Fullspeed Creative development. You can visit their WWW page at http://www.t-online.de/home/fullspeed or email them at fullspeed@t-online.de. AF

HARD DRIVE USERS

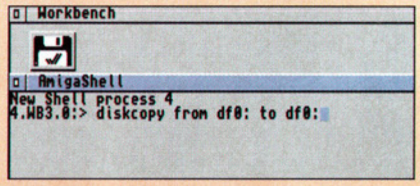
If you want to install the games from this month's Coverdisk to your hard drive, simply boot your hard drive and then insert your *AF* disk. Open the disk up and copy the two complete drawers (don't open the drawers up and copy the contents because some files are hidden without icons) across to wherever you want them. The games will run directly from there in Workbench and don't need any other files copied from the disk.

BACKING UP YOUR COVERDISK

Copying your Coverdisk is really very simple. Just follow the stages below...

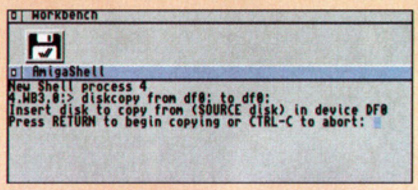


1 Boot up with your Workbench disk and find the Shell icon, in your system drawer. Double-click on this to go into the Shell.

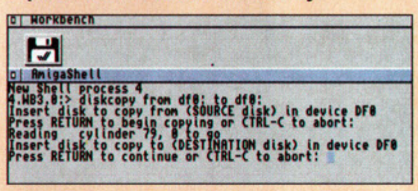


2 Type in the following line (with a zero, not the letter O), taking care to put the spaces in the correct places:

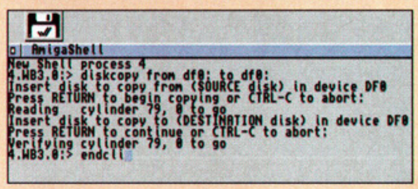
DISKCOPY FROM DF0: TO DF0:



3 When asked for the Source disk, insert your write-protected Coverdisk and press Return. All of the info on this disk will then be copied from the disk into memory.



4 Once your Amiga has read the info, it will ask for the Destination disk. Insert it and press Return. All information on this disk will be destroyed.



5 On an unexpanded machine, the Amiga may ask for the source disk again, because it copies in chunks. Finally, type endcli to close down the Shell.

DISK NOT WORKING?

We take every care to test the Coverdisk software, but Future Publishing cannot accept any responsibility for any damage occurring during its use. If your disk is faulty, send it back, with 2x26p stamps and an SAE to:

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If there is a manufacturing error then the stamps will be returned with a replacement disk.

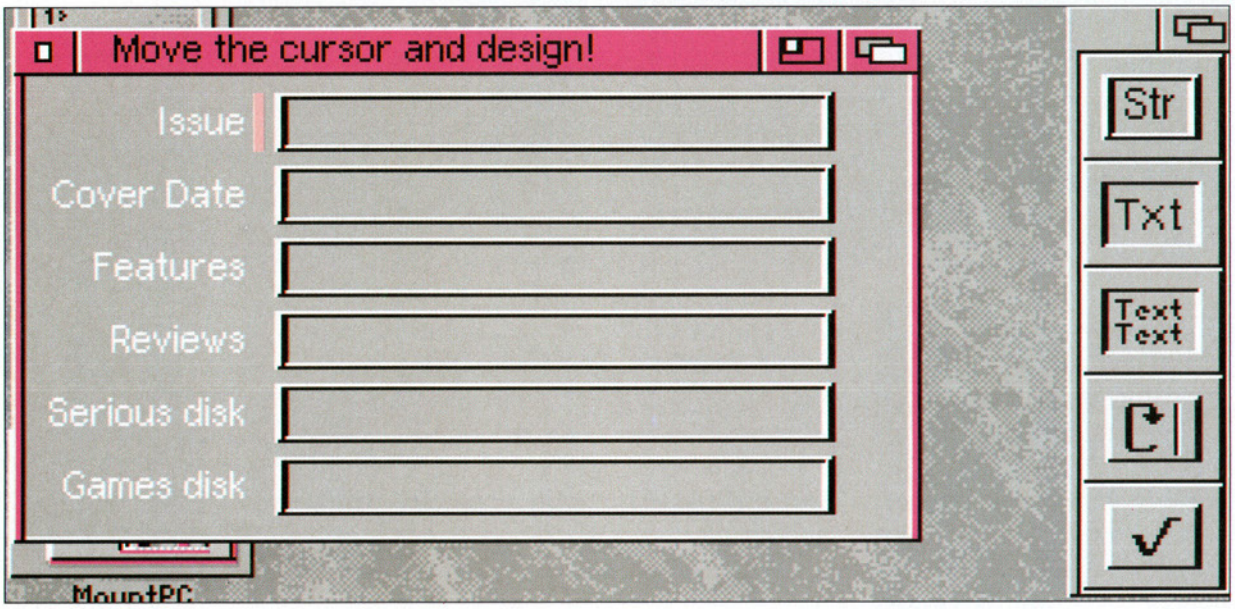
Serious disk

AMIGA FORMAT





David Taylor introduces this month's serious disk which is packed with programs and utilities, including ones to speed up your Amiga.



When *DB* first loads in the fields from the text document you can see it makes a decent job of automatically formatting them.

DB 3.5

This has always been one of the better database programs to be found on the Amiga's Shareware scene, and *DB* now has a new caretaker who has plans to expand it even further. Getting your own database up and running is simple. First of all you need to define the fields that you want to appear. You don't actually do this in *DB*, instead load a text editor that can save pure ASCII – if you have nothing else *Ed* will do – and write the names of the fields you want to use, separating each with a Tab. When you've finished, press <return> and save the file. Now load *DB* and open up your file. You'll see that *DB* formats the database automatically for you.

To get you started using the package, let's look at creating a database of your favourite Amiga magazine. Open up your text editor and enter the following fields: Issue, Cover date, Features, Reviews, Serious disk, Games disk, Got <return>. Don't forget that the fields need to be separated by Tabs not commas. Now save the file as *AF*.

Open *DB* and load in AF. As you can see it has been formatted into a decent field orientated database, but we could do with a little more room

> To get you started using the package, let's look at creating a database of your favourite Amiga mag...

and flexibility. Choose Settings/View Design from the menu and you can change the appearance of the database. Use the cursor keys to move around – if you want to expand a field horizontally, use the mouse on the bottom right of the box. Reduce the size of the Issue number field and then choose the 'tick box' icon on the bottom of the toolbar. Enter the text "Got this issue?" and then click on the

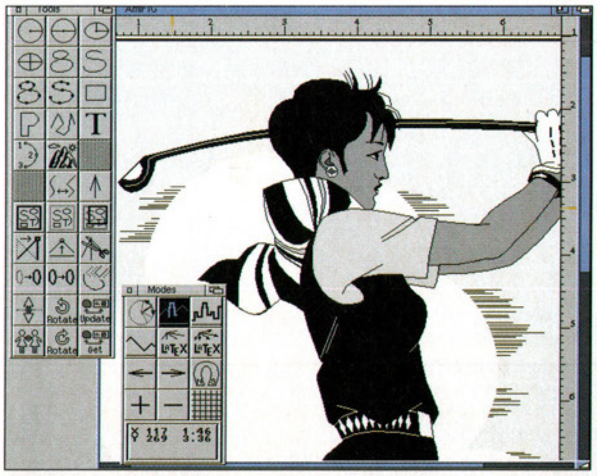
A FASTER AMIGA?

Oh yes, we said that there were some tools on here to get a faster Amiga, didn't we? Well, indeed there are. Included are three commands which you can call in your startup-sequence (you'll need to copy them to C:). *FastBlitter* improves the blitter handling; *MemSpeed 2* patches the exec.library and *WinSpeed* greatly improves the handling of Windows (the author claims up to four times – it is certainly faster, but judge for yourself). The first two simply need executing, but *WinSpeed* needs you to decide what Window operations should be patched and then feed these parameters to it. Check out the readme before starting it.

AMIFIG 2.8

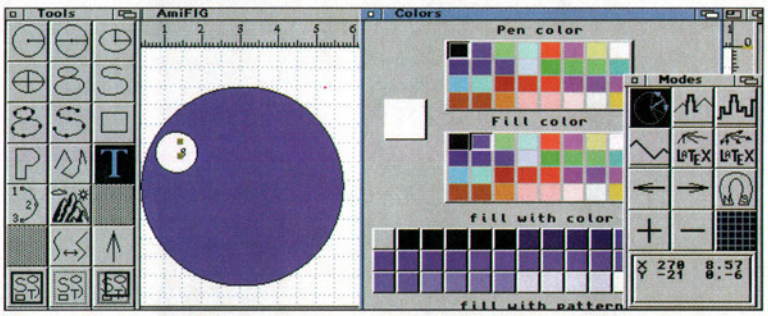
AmiFig is a universal structured drawing package that allows you to create complex pictures using the special tools. When the program loads up you'll see that there are three windows open by default. The main AmiFig window is obviously the drawing area. There are then two panels that contain the drawing tools and modes. (You can even draw out rectangles and import IFF pictures as backdrops.)

As you will see when you experiment with the package, its strong point is working out curves. If you use the tools to draw the rough outline, AmiFig will then smooth off the edges so that it looks very delicate. You can also do things like insert text, rotate objects and work with grids.



The *AmiFig* program shows that structured drawing packages can create some impressive results, like this example file.

If you think that you are limited to working with greyscale images, think again. If you open the Colour window from the menu, you can select a pen colour and a fill colour. When you select the fill colour, you will be selecting a base colour – you need to select the specific shade from the tree below.



The pictures don't have to be in greyscale, *AmiFig* can work very well with colours too!

AmiFig is a powerful program. This version can save up to thirty shapes but if you register you can get this restriction removed. The address for registration and more details can be found in the documentation.

AND THERE'S MORE

AKCC

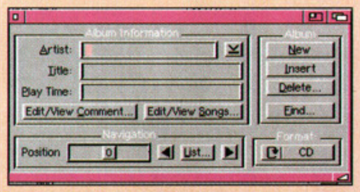
So you fancy a whole new Shell for your Amiga do you? Can't wait for Gateway 2000 to get the new release of Workbench out? Well, neither can many Amiga programmers, which is why throughout the Amiga's history the users have been creating additions for the Amiga's OS.

***AKCC* is a complete set of commands for the CLI which either bring enhancements to old commands or brand new ones. Ever wanted to truly delete a file, not just the pointer to it? Moving a file through CLI can be a pain. That Info command is a bit poor, etc, etc. AKCC has the lot.**

To find out specifics about the command check out the docs which list every command and its features although you can just install the package and enter commandname? if you want to know about how a command works.

Albin MUI

This is a *MUI*-based program designed specifically to catalogue your CD collection. It's got a full set of fields and can deal with the songs on each CD as well as the titles. It's easy to use and does exactly what you want it to.



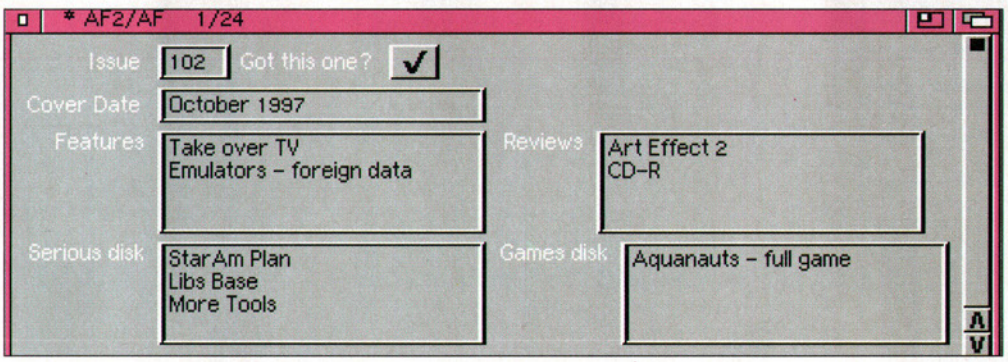
A simple but effective database, *Albin MUI* can catalogue your music collection.

DiskMaster 2

This is a new update of the file manager program. It's as compact as ever but makes dealing with all your files that much easier than through Workbench alone. It can also handle LhA archives – the sort of thing many users dread.

MakePath

A simple CLI command. Create an entire directory structure rather than having to make one at a time.



However, after working a little with the editor, you can create a database that looks much more suited to your needs.

Select button next to the Field.

Every name on the database has to be associated with a field and the fields are defined when you create the database format in your text editor. When you click on the Select icon, you'll see all your fields. Double click on Got and then okay. You'll now see a check box allowing you to say whether you have a copy of that issue.

The Cover Date field is fine but the rest of the fields are single lines. Delete them by clicking on the box and hitting Delete – don't worry I haven't gone mad! Now move the cursor down so that it's after the Cover Date field. Click on the multi-line box (middle of five in the toolbar). Now type in Features as a name and choose select for the Field type. When you deleted the box you only deleted its appearance, and this is how you re-create it.

Double click on the Features name in the Fields selector. You need to adjust the Size to 25 (to suit the default used by other fields). Do the same for the Reviews and for the Games and Serious disks. You can lay out your database as you want, but we've chosen to have the Features and Reviews on one line and the disks on another. When you are happy, click on the Close gadget, and you will go back to the data entry mode.

You can now enter the details for each field, move between them by pressing Tab, add the new entry and then click Right-Amiga-A. Save your new database and you are away.

This is a simple introduction to using *DB* and its features are capable of much more than simple cataloguing. To find out more, work your way through the excellent documentation.

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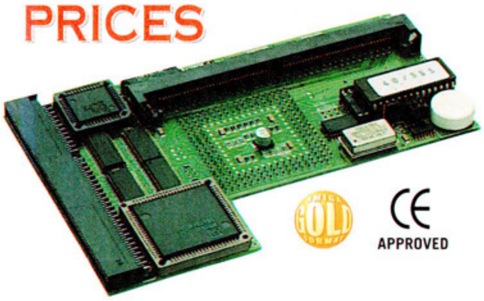
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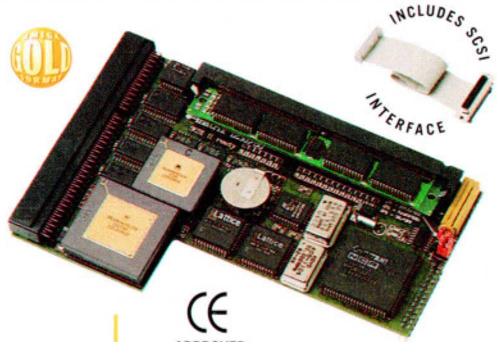
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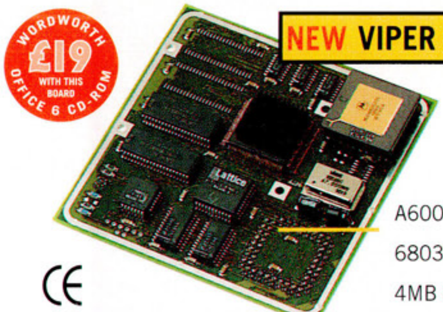
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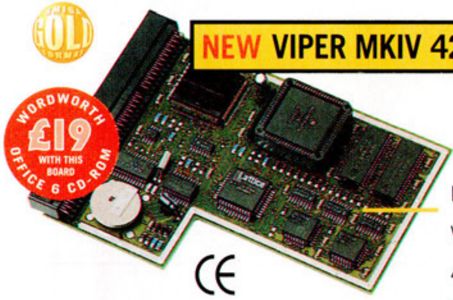
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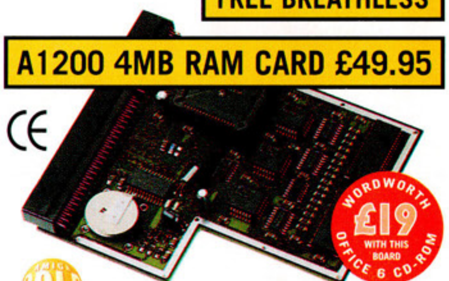
VIPER MKIV 68030 42MHZ

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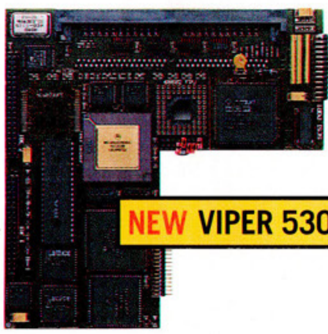
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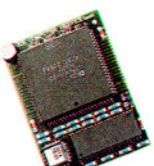
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